Notebook, PN-03-10-06

This pocket notebook consists of a diary for 1902. It was used by Edison during October 1903, September-November 1905, January 1906, and possibly at other times for notes and drawings regarding experimental work and other tasks to be performed at the laboratory. There are numerous proposed experiments relating to the chemical composition of components for Edison's alkaline storage battery, along with others pertaining to the location, assay, refinement, and use of nickel and cobalt ores. Some of the entries identify various groups of test cells, while others list experiments involving ores from the Darby mine in the Sudbury region of Ontario. There are also entries concerning phonographs, electromotographs, and operations at the Edison Portland Cement Co. plant. Among the many employees mentioned in relation to individual tasks are Jonas W. Aylsworth, Emil Herter, Walter E. Holland, Walter S. Mallory, and Peter Weber. In addition, there are some entries pertaining to business, clerical, and family matters. These include one note about sending money to the Edison children for Christmas and reminders about communications with Sigmund Bergmann, Frank L. Dyer, and William E. Gilmore. The front cover is stamped "Thomas A. Edison." Approximately 80 pages have been used.

PN-03-10-06

Rowland artist 149

103 W 55th St

102-111
Sheet 1

Shannon

Mr. Hall

55 Duane St

GG

GG

HELP IN CASE OF ACCIDENTS

DROWNING.—1. Loosen clothing, if any. 2. Empty lungs of water by laying body on its stomach, and lifting it by the middle so that the head hangs down. Jerk the body a few times. 3. Pull tongue forward, using handkerchief, or pin with fingers, if necessary. 4. Imitate motion of respiration by alternately compressing and expanding chest, or blowing about twenty times a minute. Alternately raising and lowering the arms from the sides up above the head will stimulate the action of the lungs. Let this be done gently but persistently. 5. Apply warmth and friction to extremities. 6. By holding tongue forward, closing the nostrils, and pressing the "Adam's apple" back (so as to close entrance to stomach), direct inflation may be tried. Take a deep breath and breathe it forcibly into the mouth of patient, compress the chest to force the air, and repeat the operation. 7. DON'T GIVE UP! People have been saved after HOURS of patient, vigorous effort. 8. When breathing begins, get patient into a warm bed, give WARM drinks, or spirits in teaspoonfuls, fresh air, and quiet.

SUNSTROKE.—There are two important indications for treatment—reduction of temperature and the use of stimulants. The patient should first be removed to a cooler spot if possible, or at least where shade can be secured. The treatment should be begun at once. The clothing about the neck and body must be either loosened or removed. Cold is particularly indicated in cases where there is great heat of the body, and delirium and convulsive movements are present. This means of reducing the temperature may be applied in the shape of cracked ice about the head and spine, or the use of cold water. If the heat of the body is very great, it may be necessary to wrap the patient in sheets wet with cold water. If there is, besides the great heat, evidence of serious depression, stimulants must be used while the cold is being applied.

BURNS AND SCALDS.—Cover with cooking soda, and lay wet cloths over it. Whites of eggs and olive oil. Olive oil or linseed oil, plain, or mixed with chalk or whiting. Sweet or olive oil and lime water. Shock, which is always present in severe burns, requires the administration of stimulants. Cold is more constant and intense in burns than in any other form of injury, and requires sedatives, which should be administered by the medical attendant. Later on the appearances of inflammation and other complications are to be carefully watched for.

HEMORRHAGE.—The usual treatment is rest in the recumbent position; small pieces of ice should be freely swallowed, and the application of ice wrapped in a towel, or in an ice-bag, or snow, cold water, etc., over the stomach; hot applications may be applied to the extremities.

FIRE IN A BUILDING.—Crawl on the floor. The clearest air is the lowest in the room. Cover head with woolen wraps, wet if possible. Cut holes for the eyes. *Don't get excited.*

Wea. WED. JAN. 1, 1902 Ther.

90% - 20% 150 - 75 Dry

602 - 495 87
630 490 90
607 482 89
612 498 90
609 482 90
725 528 125 ✱ 75 Pulse.

✱ put — 75% by mistake for the other range.

Wea. THURSDAY 2 Ther.

7 Dry 95

Wea. FRI. JAN. 3, 1902 Ther.

983 - 355 150 - 71 orig.

690 395 137
660 450 130
707 [illegible] 132
695 455 132
[illegible] [illegible] [illegible]
[illegible] [illegible] 130
[illegible] [illegible] 130

290

Wea. SATURDAY 4 Ther.

3 5

3 45
35
5
4 25
35
5
1 35
35
5
1 0 35
1 4 0 25
8
3 1 4 0 0
1 6 1 0 0
6
1 6 0
1 6 0
6

Wea. SUN. JAN. 5, 1902 Ther.

988 - 200 [illegible] 75 [illegible]

592 425 86
617 442 93
575 467 96
592 350 100
583 417 101
558 425 103
575 408 - 105
566 408 - 105
600 - 400 - 107

Wea. MONDAY 6 Ther.

953

Wea.	TUES. JAN. 7, 1902	Ther.

Wea.	WEDNESDAY 8	Ther.

First Run

Wea.	THUR. JAN. 9, 1902			Ther.
	75 Rounds.			
77	1037	556	455	90 75 90
78	1038	556	470	88
76	1039	571	458	87
75	1040	560	470	85
77	1041	531	425	87
76	1042	517	431	88

2nd

75 Rounds.

1037	586	488	90-99
1038	582	463	88-100
1039	585	505	86-96
1040			
1041	607	534	87-97

Wea.	FRIDAY 10			Ther.
1042	536	458	94	98

Wea. WED. JAN. 15, 1902 Ther.

Wea. THURSDAY 16 Ther.

Wea. FRI. JAN. 17, 1902 Ther.

Write Mallory about using Crucible steel wire — for belt lacing also about taking up belts so often — also support for C. C. Cooler, chilled or pure grain —

Wea. SATURDAY 18 Ther.

Wea. THUR. JAN. 23, 1902 Ther.

Wea. FRIDAY 24 Ther.

Wea. SAT. JAN. 25, 1902 Ther.

Grew

				Wind	Edge
100	1043	1280	1130	80	86
70	1044	1299–1177		80	86
67	1045	1118–996		81	89
70	1046	1195–1075		77	92
68	1047				
	1048				
	1049				

Wea. SUNDAY 26 Ther.

Wea. MON. JAN. 27, 1902 Ther.

[illegible]

Wea. TUESDAY 28 Ther.

[illegible]

Wea. WED. JAN. 29, 1902 Ther.

Test 1/2 Caps powder [illegible]
def being [illegible] powder [illegible]
no 10% water in test no Dried
dead slay [illegible]
powder [illegible]

		1st Run 20%	75 rate	
75	1063	574	[illegible]	80
80	1064	606	493	87
81	1065	608	493	89
76	1066	607	507	82
79	1067	592	487	87
80	1068	585	476	89

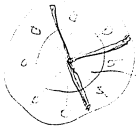
Wea. THURSDAY 30 Ther.

[illegible]

Wea. FRI. JAN. 31, 1902 Ther.

Wea. SAT. FEB. 1 Ther.

Wea. SUN. FEB. 2, 1902 Ther.



inch of

New Recorder large
word lever [illegible] 1/2
[illegible]

Wea. MONDAY 3 Ther.

Wea. TUES. FEB. 4, 1902 Ther.

Wea. WEDNESDAY 5 Ther.

Wea. THUR. FEB. 6, 1902 Ther.

Oct 6 1903 —

Dip. neg. Clock record in Kero with Chl. Sulphur in neg

also Kero with Bromine —

Try Hypo to harden surface of Kerosene dissolve it, try Bromine in H2O, — Gasoline and other naturals, try Nitric Conc — Vapors of Bromine

Dr. Donald send all the varities of the plant

if not many send for one pound

Samples from Dr. Donald purified

Wea. FRIDAY 7 Ther.

Hard & soft Cocoa — Mexican

Wash with soap & get some

Olive pitch — [illegible]

Hard Coal Tar pitch

~~Move Piano & everything very~~

~~[illegible]~~

~~[illegible]~~

~~[illegible]~~

~~[illegible]~~

roundup — [illegible] for lunch

to go in safe [illegible]

dell [illegible]

on

Wea. SAT. FEB. 8, 1902 Ther.

Wea. ~~MON. FEB. 10, 1902~~ Ther.

door — ~~work towards~~

Get Wed. to Gallup from Lorraine

Trying — when room ready

Double bookings — bookings

Wea. SUNDAY 9 Ther.

Wea. TUESDAY 11 Ther.

[illegible]

Coal Dryer —

Making what kind of [illegible]

Superior — [illegible]

[illegible]

Wea. WED. FEB. 12, 1902 Ther.

~~Wea. FRI. FEB. 14, 1902 Ther.~~

Dry (quiled) charcoal that
indicates conduct in ROH,
400°C with a change
Rechek 200 of pot current,
is not keep breaking solution
primary battery —

~~Workbench in Mirror room~~
~~annex~~ ~~tools~~ — put in
38" funnel set 1 bite-dills
big funnel —

Wea. THURSDAY 13 Ther.

Wea. SATURDAY 15 Ther.

Oct 8 1903

Have Roper [illegible]
~~Inspection Blank Cards~~ —
~~Hoop block~~ — Have an
Ecod of blank —

Claim Condon of position
Rechk + neg hydrogen
Speak of first position
Rechk — in patent —

Wea. SUN. FEB. 16, 1902 Ther.

Wea. MONDAY 17 Ther.

Wea. TUES. FEB. 18, 1902 Ther.

possibly degree of [illegible]
also measuring req. [illegible]
as sensibility of [illegible]
See Marvin book in regards
Tempos —

Combination piston with wood
chamber — dull back &
req. lessons.

Combination of a Reader
reading by req. lessons
+ Reader with problems.

Wea. WEDNESDAY 19 Ther.

Lever in [illegible] to
of bath [illegible]
have measured movement
beyond the [illegible]

Patent filler — Indexing
~~Have H. Hammer patent~~
~~wooden on [illegible]~~
~~M. Bailey~~ 2 Nitro 1 Mon
~~Pocket Int~~ — [illegible]

Wea. THUR. FEB. 20, 1902 Ther.

Wea. FRIDAY 21 Ther.

Oct 9 1903

Wea. SAT. ~~FEB. 22,~~ 1902 Ther.

Mussed funnel —
hard glaze surface on painting
got some hard pitch in
they dep. mard, heat
moved a little, also dopey
it with paraffine —
Test Lining that would
will stand —

Write the wa[illegible]
the 005 Rubber [illegible]

Wea. SUNDAY 23 Ther.

Opt Chem make some
001 002 003 & 004
Rub Lining also special
Lamp —

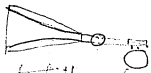
Depos Take out new Dia
as Telephone wrong show
[illegible] afterwards
[illegible] —
also after test — free pa
Condition —

Wea. MON. FEB. 24, 1902 Ther.

Wea. TUESDAY 25 Ther.

Wea. WED. FEB. 26, 1902 Ther.

Dyer's new piston patent with funnel like Reeder show funnel + rell



patent the adjustable pressure foot + ball.
Sophrine ball of a soufran suffi amt to prevent hurling

Wea. THURSDAY 27 Ther.

pressure arm clean the spring

See what new things can be patented by Miller & Co on Cotton

Metal dropper piston so made will give a second which will act as Mesters -

Wea. FRI. FEB. 28, 1902 Ther.

Wea. SAT. MARCH 1 Ther.

Wea. SUN. MARCH 2, 1902 Ther.

Iwa to and Klapstein
(must what he wants in mean,
Def. El e el. al. [illegible])

Wea. MONDAY 3 Ther.

Wea. TUES. MARCH 4, 1902 Ther.

Wea. WEDNESDAY 5 Ther.

Wea. THUR. MARCH 6, 1902 Ther.

Cobalt, Chatham Town

Smaltite 1·35 } 3·182 Co
12·19 } 9·34 Ni

occurs in Mica slate,

Skutterudite As Co 20%
occurs in Hornblende
gneiss in Gausta in Norway

Cobaltite from 9 To 33%
Sulphur & arsenic
occurs in Mica slate
in Sweden

Wea. FRIDAY 7 Ther.

Gersdorffite from O126
Fe 14% Co 28% Ni –
S+As Embo
occurs in decomposed
Blende + Galenite at
Rhosmynedd Par –

Wea. SAT. MARCH 8, 1902 Ther.

Cobaltite from [illegible]
[illegible]
at Mt Sorda [illegible]
also Ingaiite also [illegible]
[illegible]
3 to 5% Co —

Allocrocite
[illegible]
54 As — Bi
[illegible]

Wea. SUNDAY 9 Ther.

Chrysotile
[illegible]
Co from 0.83 to 3.14%
[illegible]

Wea. MON. MARCH 10, 1902 Ther.

Syepnorite.
Sp. Gr. —
34% Co
from Sypopo [illegible] Rajpootana
India [illegible]
[illegible] with pyrrhotite —

Carrollite
Patapsco mine near
[illegible] Cor. of Co Md
37% Co 1.5 in Sulphide
also at Springfield mine

Annaeite. 43% Co found
in Chlorite Slate at
Mine La Motte, at Mineral
Hill Maryland with
Calcopy [illegible] Borniti
+ pyrite —

Wea. WED. MARCH 12, 1902 Ther.

Gramicoit

$38 Fe 14 Zn 40 Pb 22

Zn 5 Co 11 Cu 11 Pb 7 Fe 7 [illegible]

found with Quartz

Chalcopyrite.

Wah ore used

in our Change

Chemical Research

by Mr. Co gally

found in [illegible]

Wea. THURSDAY 13 Ther.

Ghamcodot

As 43 Sb 20 Co 24%

Fe 12

Specimen in national

Museum with Cobaltite

in Province of Huarcos

Chili

Wea. FRI. MARCH 14, 1902 Ther.

Allochdarite

$16 As 32 Ni 30

Zn 5 Zn 2 - Co 55%

Mangan

Large deposits Wad at

Martinsburg Lewis Co N.Y.

in seams

Large deposits at Blue Hill

Wea. SATURDAY 15 Ther.

Bay [illegible]

a Cobalt phase in Maine

Cobaltiferous Wad

found at Silver Bluff

South Carolina

24% opals Cobalt

& 70% Mn O2

Wea. SUN. MARCH 16, 1902 Ther.

Erythrite

As 33%

Ni 3%

Earthy [illegible]

[illegible]

As 44 Ni 20 Co 9%

Wea. MONDAY 17 Ther.

Cabrerite

As 42 Ni 20 Co 4

Mg 10

in Sierra Cabrera Spain

in [illegible] Prom Spain

which is [illegible]

Lemesle & Angel which

Recalculation of

Recalculation of Ni & Co

Wea. TUES. MARCH 18, 1902 Ther.

Köttigite

As 37 Zn 30 Co 7 Ni 2

occurs with smaltite in

Germany

Roseocobalite

Hydrate of Cobalt

[illegible] Uranium ore

in Joachimsthal

Wea. WEDNESDAY 19 Ther.

Dialogite - Cobalt form

Co 7 Redish

Color

Pigment

Remingtonite

Rose colored [illegible]

occurring [illegible]

Veins of [illegible]

which traverse Hornblende &

Epidote [illegible] near

Finksburg Maryland

Wea. THUR. MARCH 20, 1902 Ther.

Cobaltite -
Co 2 to 4%
with Cobaltite in a
Silver mine of Cobalt
District of Ontario
Canada

Determination of Co 1½ to 2% G
in Serpentine.

Wea. FRIDAY 21 Ther.

Wea. SAT. MARCH 22, 1902 Ther.

Phenacite
As 67 Sb 3.49 Fe 21
Co 4.6% Mn 1.14 -
found in mines of
Guadalcanal in
Andalusia Spain -

Wea. SUNDAY 23 Ther.

Rabdionite
black sides groups
Fe 45 Mn 23
Al. 2 Cu 14 Co 5%
Urals Russia

Wea. MON. MARCH 24, 1902 Ther.

Rhagite

Bi 73 As 14

Co 1.47% Ca 2 [illegible]

Saxony

Roeselite

As 50 Co 13%

Ca 21 Mg 4 [illegible]

Wea. TUESDAY 25 Ther.

Saxony

Spherocobaltite

As 61 Sb 2 Co 15%

Cd 4% Fe 16

[illegible]

Wea. WED. MARCH 26, 1902 Ther.

Winkleritte

As 11 Cu 12 Co 39%

Ni 2½ Fe 2 Calcium 5

Si 2½ [illegible] 14 Etc

Thulite comes from district of Coll of Belform

Found at Pria [illegible]

Motrif in Spain

Wea. THURSDAY 27 Ther.

Unfortunite

As 21 Sb 3 Ag 59

Co 4 [illegible] 1% Ni 2

Fe 3 Zn 2

[illegible]

Wea. FRI. MARCH 28, 1902 Ther.

Sunshine in Colorado
Assayed Samples (3)
XXIII 380
Sterling Mining Co
Gunnison Co Colorado
Flow of Carbonic Gas
Minerals, Sunshine in
Gold Quartz of which the
promoters are Brooklyn Commercial
Mining Co
Mountain Gold in veins
with Gold in the veins
Big Three Large gold only
developed No Silver
two Mt Sunshine
Contains 11 oz to 15 oz Au
Ag Quartz + other minerals
near Silver Cliff
Colorado Cobalt in
number of Minerals for
Minerals & small
amount Co

Wea. SATURDAY 29 Ther.

Wea. SUN. MARCH 30, 1902 Ther.

Working Wad - Eng Pat
4486 June 1882 Pulchem
Industry p 236
Wad fine ground
intimately mix 80 pts ore w/
100 pts Sulph. Sodic
Alkaline - with sufficient
H_2SO_4 to convert reduce
of the Sulphate to
Bisulphate - Dry + fuse
in a furnace

Wea. MONDAY 31 Ther.

H_2O + SO_4 driven off
The Lime Nodules Bauxite
fine powder add fuse
to neutralize the acid
Mass finally heated
then broken up + cooled
Soak out with hot H_2O
to clean Sol add Na Sulphide
Set to precipitate Co Ni +
small amount Mn
filter

Wea. TUES. APRIL 1, 1902 Ther.

[illegible] Cinc to save
Out of the Sodo which.
Crystals out Medium leg
Dropping [illegible] with
Changed needed in
[illegible] Summer to
obtain out of this
Mon

[illegible]

Wea. WEDNESDAY 2 Ther.

Left all [illegible]

Left Barbara Bound
book [illegible]
Examiner
p 31952961-97

Wea. THUR. APRIL 3, 1902 Ther.

[illegible]

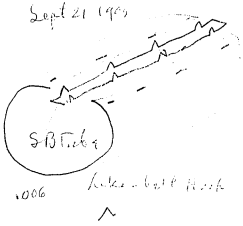
As our masted [illegible]
of [illegible] Chl [illegible]
Chl — [illegible]
[illegible] Chlorine like
Coo — to [illegible]
Co Cl [illegible]

In Chili most [illegible]
mine for Co

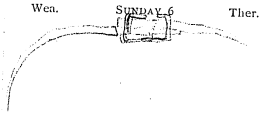
Wea. FRIDAY 4 Ther.

Veta Blanca of
San Juan [illegible] Cobalt
also if Trans bill

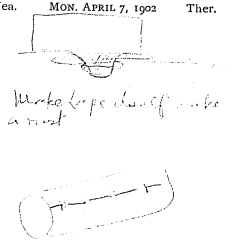
Wea. SAT. APRIL 5, 1902 Ther.



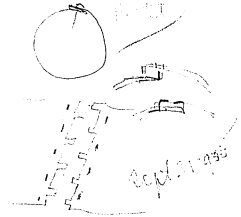
Wea. SUNDAY 6 Ther.



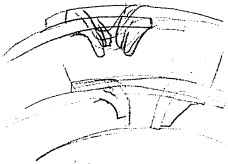
Wea. MON. APRIL 7, 1902 Ther.



Wea. TUESDAY 8 Ther.

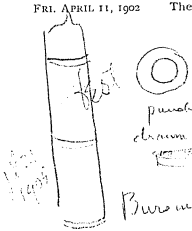


Wea. WED. APRIL 9, 1902 Ther.



Wea. THURSDAY 10 Ther.

Wea. FRI. APRIL 11, 1902 Ther.



Wea. SATURDAY 12 Ther.

Wea. SUN. APRIL 13, 1902 Ther.

Mixheds at.

Diff 31 140°

Wea. MONDAY 14 Ther.

See Hammarsten
Vol 2 p 230 [illegible]
2nd Edition p 540
about Glycosuria
Tube mills –
Mixed determining [illegible]
[illegible] –

Wea. TUES. APRIL 15, 1902 Ther.

See Johnson Lewis [illegible]
[illegible]

Try using Glucose
Old glucose impure &
maybe are something
but I take to invert it
by adding of KOH,
also have a viscous

Wea. WEDNESDAY 16 Ther.

Cobalt Ni or other
salt that will
take place glucose

Make the different
solns for trial
with dry Chemicals
in [illegible]

Wed. Oct 1 1905 THUR. APRIL 17, 1902 Ther.

2 to 4 [illegible] phosphorus
[illegible] that H_2SO_4
[illegible] plan
Prep [illegible] —

Have one chemist
work on increasing
Dilution of H_2SO_4

Wed. Oct 1 FRIDAY 18 Ther.

KPhos [illegible] other
Compatible [illegible]
also [illegible]

Size thro 30 all fine
Screen flake thro 15 & then
[illegible] keep it off mesh
so thro 15 goes with on 40
& so on — then mix in
proper proportion for tube

Wed. Oct 1 1905 SAT. APRIL 19, 1902 Ther.

See John Oldright about hand machine
for making [illegible] tubes [illegible]
[illegible] Oldright [illegible] moved
[illegible] inside —

Prepare [illegible] tubes for experiment
with Arsenic, Aluminum,
KI Copper, Pb Zn
Sn Phosphate, Chloride,
Bromide, Nitrates,
Gelatin, Humic, Pb,

Wed. SUNDAY 20 Ther.

See how thick that bottle
of very bright Mercury was
[illegible] of 1000 12 or three [illegible]
months ago [illegible] good tubes
were found or rings —
Glycerine bars inside
50 Double T

Get from Holland all
Lalande Cuvettes for
New Man & supply
plates Cells Etc —

Wea. MON. APRIL 21, 1902 Ther.

Let Bridges expand other
Zinc distillers for powder.

[illegible] powd. fuel fuel
perhaps so light & just as
cheap —

see if HgPtK fuller
recovery. Cu plate dissolves
Ca HgPt mush soak

[illegible] Holland & [illegible]
Starling 150 Yahr

Wea. TUESDAY 22 Ther.

Time — Start [illegible]
Regard single particles

Expt. filling [illegible]
Pt Cut in two & by
Various ways — Then
test one & weigh —

Wea. WED. APRIL 23, 1902 Ther.

Deletion Pt —
F Field — Chem News
43 — p75 add KI
— slight excess to Pt Chl
Pt Iodide dis — + if sol Conc
and liquid almost black
produced —
1 pt in 2 million detected
Col dissolved by H_2SO_4
Sulphites Thiosulphate Pla
Sulphurous a
Mercuric Chl & others

Wea. THURSDAY 24 Ther.

Arrangements
[illegible] and to heated
1/10 to 100 Pt. to [illegible]
Zinc + Pt Fe [illegible]
+ Pt — Cd + Pt Mn + Pt
Co + Pt Pb + Pt Cu + Pt
Hg + Pt Au + Ag + Pt —

Wea. FRI. APRIL 25, 1902 Ther.

~~Intermediate~~ Cut a tube
so 1/2 of mix tube is
exposed then run it see
if mix tube gases to prove
prick holes in one tube
see if runs better —

get platinum needle
take out a tube of mix
lay on foil + use
needle see if not work

Wea. SATURDAY 26 Ther.

continue —

Take 2 oz group tube
dissolve tube
[illegible] good —
~~test~~ test 1/2 tube
in glucose + [illegible]
to [illegible] —
then try run —

Wea. SUN. APRIL 27, 1902 Ther.

[illegible] tube [illegible]
put in HOH,

Nitrate K
Sulphite K
Persulfate K
Phosphate
Hypophosphite
Hypophosphoric
Nitrite
Cyanide K
Chloride Mercuric

Wea. MONDAY 28 Ther.

Tartrate
Manganate
Ferrocy K
Ferricy K
Sulfocy K
Sulphite Not
Thiosulphate
Oxalate K Hydrol
Acid Oxalic,
Chloride,

Wea. TUES. APRIL 29, 1902 Ther.

[illegible]

Wea. WEDNESDAY 30 Ther.

[illegible]

Wea. THUR. MAY 1, 1902 Ther.

[illegible]

Wea. FRIDAY 2 Ther.

[illegible]

Wea. SAT. MAY 3, 1902 Ther.

500
500
500000
500000
27) 14000
1250
1250
74

55500
5500
500) 55000 (1
500
500
500

Harris Jar

Wea. SUNDAY 4 Ther.

20000

Wea. MON. MAY 5, 1902 Ther.

Nov 24th -
Ferric Sulphate dissolves
Cupric Sulphate, forming
Ferrous Sulphate + Sulphate
Copper -
Sulph Copper with
[illegible]
[illegible]

Hydrous Ox Cu dissolves
in Cupric Sol Mg Chloride

Cobalt found in Cobb

Wea. TUESDAY 6 Ther.

Mg [illegible]

CuS dis by Metallic Iron
Hot -
dilute Ferric Sulphate
Sulphide Copper mixed Sol
attack Copper
Young re dissolved to
Cuprous Sulphate
+ air oxidizes Hydrate
to Cupric Sulphate

Wea. WED. MAY 7, 1902 Ther.

Ferric Sulphate dissolves metallic Copper

Dip 3 tubes discovered 650 amps in Cons. & Ni Alloy [illegible] peroxide — on theory that Ni has chromic put contact with flake —

Wea. THURSDAY 8 Ther.

Take some of the new Co foil from Copper & Coloring

Make 3 cells like 3 H & each strip in 21% KOH, Run Cell 1 hot Flat 1 no same — no reaction —

Fresh Oth make the same —

Wea. FRI. MAY 9, 1902 Ther.

Try to test for Cyanide in our KOH, new & old Solution,

test on iron or iron that Green in Hot test with Co flake + see if any Co on it or wants dissolve the mind,

Try 3 cells with sheet Co hot test in the

Wea. SATURDAY 10 Ther.

25 mlg KCy in KOH,

put up Keg cups filled with Co flake from big drum punchings & KCy make about 15 & try hot 3 each in KOH made different ways

Wea. SUN. MAY 11, 1902 Ther.

Wilson not new flake
Lord dark green 1 lamp
Non d rub of flake 1
[illegible] 75
scale not green
[illegible]

also reduce Glucose
down to the general
amounts like used
in No 243.

Wea. MONDAY 12 Ther.

group 5 up soaking
wet glucose and
alkalum - then
soak 45 hours
33% KOH. 6 sp.g.
Chg

Wea. TUES. MAY 13, 1902 Ther.

put up 3 glass cells
containing samples of
Co flake with
Chl K in KOH.
or Sulf of 55
ditto IK - Sb_2O_3 of Rich
25 mlg to 100 cc KOH.

think that in underlain
yellow on Rubber in
cells that went
bad was sulphide
continuing

Wea. WEDNESDAY 14 Ther.

also with KB in

dextroz not green
from 2 of 6 and in
group 1 that
is still good in
group 6 see state
of flake - Saw
that first -

Wea. THUR. MAY 15, 1902 Ther.

Try Nitrate with KOH
with Co filter sheet

lest the load (Ic)

Pulverize from
Pb acetate mix
near mix see of
Selenium + Cadmet
+ Ag

Wea. FRIDAY 16 Ther.

May be Chromate
Se 27 Pb 68 - Co 3.4

Wurtz about 5/8
1/2 mica diaphram
Hard Hellmann try
2 Cu O plates 1 Zn
Dry 21 Leclanche
see what V + Amp

Wea. SAT. MAY 17, 1902 Ther.

if good results try more
surface

See if there really is
any Mn or Co in
KOH after Gen running
30 Hrs accumulate
until slightly red
to decomp and K Cy boil
+ then precipitate by KOH.
also try Nitrate

Bottling Dr may more

Wea. SUNDAY 18 Ther.

Co assaying and try
McCreath let Dr
assay the Gum rubber
+ Roff,

Dully to distill
Smalt it with
charcoal in
Earthen retort

Wen. MON. MAY 19, 1902 Ther.

[illegible] some kind [illegible]
of [illegible] wash in strong
$HgCl_2$ dry [illegible]
[illegible] - [illegible]
soak [illegible] soda or K
Then put [illegible] Phos Hg in
[illegible] of [illegible]
[illegible] soak
out very [illegible]
Then put in ~~10%~~ 5%
bring to work [illegible]
Oxalate [illegible]
the [illegible]

Wen. TUESDAY 20 Ther.

Groups to be changed
Long change not allowed
[illegible] 24 hours +
[illegible] 1/2 change
[illegible] that
1st change [illegible]
do with subsequent
life [illegible]

Wen. WED. MAY 21, 1902 Ther.

another group
Reverse ~~[illegible]~~
then dry Hg —

Another group to be
used with fold [illegible]
that have already
been long on [illegible]

All new groups to
have good [illegible]

Wen. THURSDAY 22 Ther.

Group of 3 with 100 mlg
following
Antimonate [illegible]
Nitrate ✓
Chloride ✓
Bromide
Hg ✓
Iodide
Arsenate
Arsenite
Phosphate ✓

Wea. FRI. MAY 23, 1902 Ther.

Hypophosphite
Sulphate,
Borate
Ammonia —
Kl
Lead Ox
Barium hydrox
Lime
~~[illegible]~~
~~[illegible]~~

Wea. SATURDAY 24 Ther.

Zincate
Copper
Hypochlorite K

Perhaps phosphorus
as phosphate in bad
in cell in fulmes

Wea. SUN. MAY 25, 1902 Ther.

Schmatol says that if
Cu anode Cathodium
Considerable concentration of
Tin the copper anode
Malleable & smooth

Arsenic dissolves in acid
or neutral solution as
Arsenious acid
but goes as solution sodium salt
its known down as Arsenite

Wea. MONDAY 26 Ther.

From neutral sol arsenic
is deposited at Cathode
as metal from acid sol
only when sol is poor in
Copper

If arsenic exists in the anode
as Arsenite goes entirely into
slimes but in acid sol
it gradually disappears
as arsenic acid in
consequence of secondary
Reactions

Wea. TUES. MAY 27, 1902 Ther.

Deposition Voltage of arsenic is near copper & it can be plated out in a spongy state when the current density Exceeds 33.5 amp per square foot in Sulphuric Solution .125 milamp per inch

Arsenic can be precip by steam of air & ammonia Sol of ferrous Sulphate the Arsenic combines to form ferric Arsenate.

Wea. WEDNESDAY 28 Ther.

Arsenic acid, only As_2O_5

Arsenious As_2O_3

Arsenious ox diss in KOH but dont neutralize it.

Cinc Sal decomp by CO_2 of air –

Wea. THUR. MAY 29, 1902 Ther.

when KOH saturated it gelly crystallizes out

K Arsenite

neutral salt

$K_2O\ As_2O_3$

acid salt

$K_2O\ 2As_2O_3\ 2\ H_2O$

Wea. FRIDAY 30 Ther.

Arsenous acid sol

1 to 10 H_2O Hot

1 to 30 " Cold

Wea. SAT. MAY 31, 1902 Ther.

Think Can Roast Dorby & melt up pour to make part in KOH along with Nickel Cathode & form Arsenite K or deposit Arsenic on Cathode at low density with out any Hydrogen

Wea. SUN. JUNE 1 Ther.

Also try KCl. Solution for Leaching Was try Bisulphite of Lime its Soluable

Wea. MON. JUNE 2, 1902 Ther.

test Warrens flake for Arsenic,

Weigh out some Dorby on ~~Roasted out dorby~~ ~~in HOH~~ Roast it thoroughly & see how much it loses. – in small 1½" Porcelain porcelain –

Have Fred Old fix the film cells so switch

Wea. TUESDAY 3 Ther.

don't Cut them off so run all night.

Polishing up good Warren 1000 – Williams just before Christmas 150 & Tom 100

Fred Old ~~make~~ cut piece Warren anode 60 C 40 Pt & start more plating out the Co – – Fred to Cut out & polish small anode –

Wea. WED. JUNE 4, 1902 Ther.

Scheme Co oxalate very much
Easier than Mn oxalate do arsenic
[illegible] - [illegible] 200

Wash Barby & [illegible] gravel
in small beaker - long time
warmed at low temp. until
all the Co oxalate leaving
the Mn in suspension
decanted and the Co O by
KOH dilute,

for washing Barby dead

Wea. THURSDAY 5 Ther.

Treat with boiling water
to dissolve any arsenic
acid left by washing
Test the water see if it
really has arsenic -

Boil to use KMnO4,
or better steel [illegible]
not have by H2O2
Hypo treat KMnO4,
after precipitating BO4 H2SO4

Wea. FRI. JUNE 6, 1902 Ther.

perhaps of Barby 200 in
reduced to 1/5, arsenic
Hot Hypo might oxidize Manganese
& then Hypo would not
would reduce Mn. of KMnO4
unnecessary

If necessary Chlorinate the Co
by precip by Carb Soda or
precip with lime & then
resuspended in Water or
Chlorine passed the sol
then filtered the filtrate will contain
" the solution of the metal no
Wea. Chl. SATURDAY 7 from Co Ther.

possibly the Co Chloride precip
by KOH chlorine KClO
Heat more Co than the Ox precip
according to amount KClO
in the KOH.

Especially if the Chlorine treated
H2O2 to pass oxidize the Co,
or acetate the Co O4
peroxidize by H2O2 or
precip by Hypo - Contains KNH4

Wea. SUN. JUNE 8, 1902 Ther.

New Zealand Soap Nat & Co
Double K Na Sulphates & K2SO4
have different solubilities.
Operate thus, make
strong solution of Na & Co
Sulphate, (10) Density.
While hot pour in
concentrated hot
of Sulphate K, Stir
well let the Crystals
separate then filter
The Na K Sulphate salt
will come down as
it is 3 times less sol.
This is better solution
than using hydrochloric
to Sep —
Re Sun & Concentrate the
Density — & remove Fe
present or reduce any
present by passing
H2S otherwise iron

Wea. TUES. JUNE 10, 1902 Ther.

will come down with the
Sulphates
Look in Solubility Sum & one
of Na Sulphate and Gallon
Gubbs Soap Gallon, where
we separate Co & Ba by
New process —
Perhaps by adding
larger quantity of K Sulph
Saturated at start
the volume of separation
Wea. WEDNESDAY 11 Ther.
Can take place —
of precipitation would be less
& cost after such
solution —

Fractional Crystallization
by pulling in Water a
in the Sulphates of Na & Co
Solution — Cool also
boiling —

Wea. MONDAY 9 Ther.

Wea. THUR. JUNE 12, 1902 Ther.

The Oxalic process may be just the thing as it eliminates sulphuric & the solution is clear

Worth a chance for malcolm [illegible]

Possibly it should be done in duplicate

probably CuS or H_2S,

Wea. FRIDAY 13 Ther.

Wonder get all the H_2SO_4 back — only have the oxalate,

ammoniacal H_2O_2

Oxidizing — relin

Cu Sulphide —

Wea. SAT. JUNE 14, 1902 Ther.

Crocker says Sulphide of Cu is sol in ammonia

S S

1 1

This is good

Copper unnecessary

Cupric Sulphide satisfy with ammonia, The Copper dissolves instead of the Cupric Sulphide

Wea. SUNDAY 15 Ther.

is necessary to compare sulfate — The solution should be diluted with deaerated water & closed up —

Key reserves CuS as Sulfide, hence it may be possible to regenerate the filling

Wea. MON. JUNE 16, 1902 Ther.

NN 75 HKS Thermo

Trying Leclanche Rosin H_2SO_4
Slightly warm & blow
and thoroughly

also Methy & blow air thru

in using K Sulphate to
work Daniell - add
the proper amount of H_2SO_4
to solution & Evap
down etc - as well.

Wea. TUESDAY 17 Ther.

as using Conc ~~[illegible]~~
Leclanche
Boil a Copper oxide
plate in Conc KOH,
also in Melted
KOH, makes a
higher oxide
also Na or K chlorides

Wea. WED. JUNE 18, 1902 Ther.

Trying Leclanche
Rosin - Steam -
Leclanche Trying as
Electrolyte
2 pts Ca Cl 6 H_2O
into which 3 pts.
Lime hydrate dissolves
the ZnO Combines

Wea. THURSDAY 19 Ther.

with $Ca(OH)_2$
falls to bottom -
~~slow~~

Wea. FRI. JUNE 20, 1902 Ther.

Try Sulphocyanide of K- abs of chloride of Copper - or Sulfocy ppt -

The precip Copper and by Barium Sulphide p 8, Chem Engineering Vol 1 -

See if this water dis Copper by Sulphocy of K- if it dissolves.

Wea. SATURDAY 21 Ther.

Throw down Cu as Sulphide by H_2S + recover the Sulfocy

also try precipty from $KClyCuCy$ the Copper by H_2S.

Wea. SUN. JUNE 22, 1902 Ther.

acidulate the $KClyCuCy$ with H_3PO_4 - abs in the HCy in KOH, then while solution very acid + KCy dissolved pass H_2S. - This should throw down CuS + the H of H_2S forms with the Cy HCy which has absorbed

Wea. MONDAY 23 Ther.

by the KOH.

Roast the CuS to oxide or use in Lelande.

Wea. TUES. JUNE 24, 1902 Ther.

Dep Co from Ni by [illegible] and deg of oxidizability of the sulphides —
Tin & Fe oxdy most rapid
Mn next = Co Cu Zn
oxdys very little —
Mount Sulphides Ni & Fe
is pressed by gathering
fumes then poisoning
Rise temp 45 deg C
Steam — p 199

No 34 1878 - Chem Sd

Wea. WEDNESDAY 25 Ther.

Scheme Dep by Oxidizer
of acetone + other organic
Sol one side Chl for
of Co Ni other side
also NaOH 1 side
Cell with other side
NaOH can be replaced
by other chemicals

Wea. THUR. JUNE 26, 1902 Ther.

If Co bloom is cleaning by NaOH, then we can roast Dandy by 1st driving off all the possible then washing NaOH & Condensing the roast & lixiviating -

Phos Ni is completely dof in acetic & while phos Fe is usual, when there is an excess of the phosphate

No 34 1878 Chem Sd
p 244 245 -

Dyspepsia Kilns -
production in that portion of furnace non clinkering in combin with a settling chamber, the dust from furnace into settling chamber,

Wea. SAT. JUNE 28, 1902 Ther.

[illegible] 2 oz mixed
[illegible] with Chloroform [illegible]
[illegible] all [illegible]
off as [illegible]
or Roast as [illegible]
then [illegible] with Chloroform
and heat as before [illegible]
CO_2 all [illegible] [illegible] off
as [illegible]

then
Rinse out 2 oz mixed [illegible]
[illegible]
with Salt 2 oz mixed
in [illegible] 50 oz [illegible]

Wea. SUNDAY 29 Ther.

Rinse with [illegible] -

Absolute [illegible]
use of alcohol

free [illegible] Collodion
with KOH [illegible] of
As all [illegible] out

Wea. MON. JUNE 30, 1902 Ther.

Where KCl is principle
object aimed at of 2 NaCl 1 [illegible]
in [illegible] of KCl is [illegible]
then the KCl is not contaminated
with Sulphuric

for KCl condensing [illegible]
Sandstone is [illegible]
of [illegible] [illegible]
[illegible] of [illegible]
not necessary

Wea. TUES. JULY 1 Ther.

in debate but KCl will
replace Sulphuric from
Na_2SO_4 [illegible] principle
of 2 NaCl to 1 Na_2SO_4
only in [illegible] condition
with H_2SO_4 [illegible]
KCl from NaCl.

Wea. WED. JULY 2, 1902 Ther.

The Aussig Chemical
Works supply stone ware
in Gardenway - copy for
Mr. to Gallman [illegible]
Works
(where is the works
situated?)
Aussig Austria

Wea. THURSDAY 3 Ther.

Write Bab Spice
about getting me some
Experiments —

Immense throng down
by people Wabz from
Salt whole city

Wea. FRI. JULY 4, 1902 Ther.

1 = Write Bergmann to get all the Catalogues, + price lists Aussig Chem Works Aussig Austria Chemical Gallmann
Hydrochloric acid Carbonic acid etc etc

2 = Write Bab spice Pratt Industrials get brought young men —

3 = Hurry flow a measuring reference plating bldg

4 = about getting Crocks for plating

5 get Catalogues of Opal Glass & other makers of Glass Tumblers — or Molons for opaline

6 = get Brosler's Lime Binocular for Cement,

7 Tied off for muffle for Arsenic — run pipe out doors + [illegible]

Wea. SATURDAY 5 Ther.

8 = Record Statements Sunday + get a supply of those that work,

9 = Scheme out apparatus for KCy recovery

10 " " for dissolving Cu on flakes in KCy

11 " Washing + Drying —

12 = Wrote for drums, drawing for st + Tops,

13 = found out from Abbot first address of family making Chem pots in Phila —

14 = Hooker found patent of powder horses out Zelman — drawings there at Silver Lake.

15 = found out Blake Crusher for fine Grinding

16 Miller found out about Mulsters burners

Wea. SUN. JULY 6, 1902. Ther.

17 [illegible]

18 [illegible]

19 [illegible]

20 [illegible]

21 [illegible]

22 [illegible]

23 [illegible]

24 [illegible]

25 [illegible]

Wea. MONDAY 7 Ther.

26 [illegible]

27 [illegible]

28 [illegible]

29 [illegible]

30 [illegible]

Wea. TUES. JULY 8, 1902 Ther.

32 [illegible]

Yellow [illegible] work [illegible] Cyanide & from [illegible] which is the [illegible] with KCy —

[illegible]

Wea. WEDNESDAY 9 Ther.

[illegible]

[illegible] no [illegible] —

Sul A 65° [illegible] Atlantic Dry 70

45 [illegible] 24 lb [illegible]

Wea. THUR. JULY 10, 1902 Ther.

Present [illegible] of [illegible]

[illegible] Wed at
[illegible] is -
also the Wed by forming
Sulphate, filter, precip
the Hg + Co by Na Sulphide
only little Hgs comes
down - wash precip
press there fether goes
than treat with perchl fer
most Hg goes into Sol

Wea. FRIDAY 11 Ther.

precip as Sulphide + part
as chloride, leaving
compositively speaking
pure residue of Hg + Co
Sulphides behind
New S Wells Rep

p. 232

Wea. SAT. JULY 12, 1902 Ther.

Tried oil to make a paint
brush robbs inch or so
dia one roll go 30
the other only 50

to run flat [illegible]

[illegible] K in the proportion
ion $Ag(CN)_2$ the [illegible]
ion, the K acts [illegible]
in the $AgCN_2$ + deposits

Wea. SUNDAY 13 Ther.

Silver

Charcoal at red heat
reduces Cyanate to
Cyanide de K -

[illegible] Kly +
some Cyanate [illegible]
decomposes [illegible]
+ Cly

Wea. MON. JULY 14, 1902 Ther.

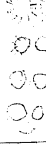
Perhaps can use iron
anode in the Cu key bath
instead of the Copper
[illegible] Blue
get the key book
[illegible] the blue with
Chemical Publishing
Co. from Chalmers &
Kling —

also rubber rolls
30 Raw + 50 - Red

Wea. TUESDAY 15 Ther.

Soft rolls —

If the two new long brushes
work there will be a going



Wea. WED. JULY 16, 1902 Ther.

Try some Sulphate Wax
mixed with Flake Wax
Dump to dry then
peel by Echo Kitt,
to form a Brush mould.
probably Old Mg Bottom
[illegible] Powder [illegible]

probably the best cerulay
brush would be a
moulded soft rubber
with fine Teeth 1/32 long

Wea. THURSDAY 17 Ther.

Wea. FRI. JULY 18, 1902 Ther.

Very Conc Hydrosulphuric K
attacks the [illegible]
[illegible] Cupric
Sulphide then decomposes
with Cupprous Sulphate
& Sulphur. Thus it forms
Sulphuric acid & the
Cos + K Sulphate in the
Solution

The action is 1st formation
of H_2S + Cupric Sulphate

Wea. SATURDAY 19 Ther.

The latter as fast as formed
splits up into Cupprous
Sulphide which forms
the double Salt K_2SO_4
+ the Sulphur colours
[illegible] yellow [illegible]

Chem Soc 1893
[illegible]

Wea. SUN. JULY 20, 1902 Ther.

Treat flake with KS fully
then oxidize the Cu S by
Permang in alkaline
also by [illegible] [illegible]
to form a sulphate of
the Cu S

Cupric Sulphide Combines
with Sodium Hydrosulphide
to form double Salt
Soluable in H2S

Wea. MONDAY 21 Ther.

[illegible]
1559 Chem Soc 1892

Wea. TUES. JULY 22, 1902 Ther.

[illegible] of [illegible] place for [illegible]
Most [illegible] Pb. Hg Cu Zn Bi Cd
Sb Sn Pb Zn Zn Co Fe Ni TP
Wha. The [illegible] is [illegible]

If KS acts on Cu gives CuS if works flakes
one perfectly [illegible] in cop water
the CuS [illegible] to a coffee but is
[illegible] by the [illegible] [illegible]
[illegible] flake has been in KS [illegible] by
[illegible] by decomposition

CuS dissolves somewhat easily in
alkaline thiosulphate forming
[illegible]
[illegible] HCl [illegible]
[illegible] — CuS dis in

Wea. WEDNESDAY 23 Ther.
ammonia thiosulphate solr

If CuS is washed with [illegible]
Cuprous HS by decomposition
until free of all traces of
dissolves [illegible] a coffee

Thiosulphate, Ulsmales
& Jungfleisch form double
salts with CuS & dissolves

Wea. THUR. JULY 24, 1902 Ther.

Try Cyanide K on Copper

Try KCy on [illegible] of [illegible]

Try KCy [illegible]

[illegible] of [illegible]
add some KCl.

[illegible] — Copper
plating —

Wea. FRIDAY 25 Ther.

[illegible] Cu on KCy [illegible]

[illegible]

[illegible] for Catalogue
[illegible] all [illegible]
in Electro plating
[illegible] Electrochem [illegible]

[illegible] Soil
for Plating —

Wea. SAT. JULY 26, 1902 Ther.

Calyfornia

To Fe of Gallery add
Chromic Acid mixing
possibly with other oxides
the reduction —

also Pt Cl, to form a negative
metal in Fe so it will chrome
it without Gold applying an element
so that on Cathodic Oxidation
it would be on the negative
quite higher than Platinum —

Wea. SUNDAY 27 Ther.

Gallery = Mix some oxide
with the Coffee

Mixed the zinc or Spelter mixed
take out & insert in Liber
burns outside so Cinchonas
Change zinc also
Coat outside with
plastic pitch

Wea. MON. JULY 28, 1902 Ther.

Add Chromic hydrate to
Lebaudy - forms lyon
precip. with ZnO in KOH,

Fluoride Zn forms double
Sul salt with fluoride
of K,
Fluoride K in Lebaudy
ought to work —

Try $ZnCl_2$ in Methyl
Cyanide — or Ethyl

Wea. TUESDAY 29 Ther.

also $CoCl_2$ in Methyl

Nigelum Subgiusum
acid + Sulphuric = HS
dissolves Co —
Make by passing
HS through Sul Subgiusum
acid —

Wea. WED. JULY 30, 1902 Ther.

[illegible]
Titanofluoride K
Stannofluorides

[illegible] of K
Phosphotungstates of K

Borotungstates

Trip[illegible] by $CoCl_2$ in [illegible]
Zn
Cu

Wea. THURSDAY 31 Ther.

When gold flake, [illegible]
Smoke [illegible] with low temp
it changes & dissolves [illegible]
by gl ammonia only. Then gold
in form. I decided to dissolve
it need before it gets chance
to deposit. Now [illegible] on
[illegible] water —
Knowing $CoCl_2$ & Hero affinity
[illegible] good [illegible]
due to other [illegible]

Wea. FRI. AUG. 1, 1902 Ther.

Cuprous Chloride dissolves in
NaCl or CaCl, it acts on
Sulphide Copper thus
$Cu_2Cl_2 + CuS = Cu_2Cl_2S$,
dissolving the Cu_2S & liberating
Sulphur —

Cuprous Chl in NaCl
When evaporating arsenic
from Sb or Bi is thrown
down by CuO or Cuprite
lime — I oppose th
Cuprous Chloride in NaCl sol
that is not [illegible]

Wea. SATURDAY 2 Ther.

Try Dunby regulus method
with lime instead of chlorine
furnace —
then Electrophoretic test of arsenic
left in mixing

Reduce Dunby regulus
on by Hydrogen —
redissolved by NaCl sol
arsenic left behind

Wea. SUN. AUG. 3, 1902 Ther.

Cu sulphate (acid) is reduced by Cu to Cuprous in ppt

Dissolve Barley ore by Sul ac + crystalize out the Cu SO4 get rid arsenic - try Chloride

also dis in HCl ~~and~~ neither any arsenic or Fe, Manganese

Dry + dissolve in Ethyl Methyl al -

at charge into Solution - Sul Cu

Wea. MONDAY 4 Ther.

is crystals then mother liquor ~~[illegible]~~ ~~[illegible]~~ ~~[illegible]~~ then mother liquor boiled + Cu & arsenic Hydrogen form - but left as Sul acid & the mix of Blue Vit is dissolved in amount water & Blue V Vitriol dis & leaves arsenic acid -

Wea. TUES. AUG. 5, 1902 Ther.

Wike says best way get rid arsenic is to deposit it a low density use Sul acid dis about Copper Vitriol same at Manufacd from Bolthum Cu Co Cu As - the arsenic is deposited along with Copper when the current density exceeds 3.3.5 Amp per sq ft upwards

The Sulphates of Co Ni + Cu are crystalized out + acid drawn off used over again -

Get Borcher's Electrolytic process -

Borcher removes arsenic + iron from the Manufacd Copper by blowing air in fume chamber for 20 hrs Cu + Fe in acid solution Ferric Arsenate

Wea. WEDNESDAY 6 Ther.

Wea. THUR. AUG. 7, 1902 Ther.

B+Sb are thrown out after boil when t becomes less acid

Try ammonium Cu Cl flake - Na w Hg

Dissolve Cu by HNO_3 add NaCl - w/s then get Cu in Cl's ~~KCl Crystals~~ Crystals the KClO₃ find out

Dissolve Cu by H_2SO_4 add NaCl - Then

Wea. FRIDAY 8 Ther.

Tin will be left out
Chlorides, without
necessity of HCl
The sulphides will not
bother in precipitating
Could probably
Crystallize most of
Sulphates out w/
Force the Chlorides by
as to make them. easily

Wea. SAT. AUG. 9, 1902 Ther.

If this Sand go thru use
Bisulphite & Sulfur over
Requirements the NaSulphite
should need to make it
Bisulphite again

Force roasted Dirty with
Wood Comb Soda. This
will get rid of the Arsenic &
Antimonic Soda leach out,
also Try ~~KOH~~, NaOH,
also Ca + NaOH,

Wea. SUNDAY 10 Ther.

also NaOH,

Boil Dirty roast with Hypo
for long time Extract thru Sand
H_2O boxes & leaves + Dirs on
HCl Evap dry dis with H_2O
& test for Arsenic -

Wea. MON. AUG. 11, 1902 Ther.

Barly thiosulphate on freeze with Chloride. K & ROH, Ephemd water. Thio stained remove arsenic.

also Try Barly treated precip. with [illegible] Ephemeral H_2O -

Hyposulphite Soda this Ag & Cu precipitate also quick

Try this & only tried it on Cu S -

Wea. TUESDAY 12 Ther.

The Thiosulphate Copper Can then be precip by Na Sulphide Not fair Regenerate the Thiosulphate of Na

Solvent solution dried from the Dynamite [illegible]

Wea. WED. AUG. 13, 1902 Ther.

Antimony & Arsenic Silver Compound quiz up Chem Silver to Thiosulphate Na

20 grms Litre dissolved at 54 C about 100 mils of Silver Copper about same but Sol Can be antimony removed H_2O & Cu precip by H_2S & Thio regenerated -

Wea. THURSDAY 14 Ther.

Our trouble with plating Zn is probably due to Arsenic

Schnable p 916 917: continuity filter the electrolyte from Zinc shavings

Soap to prevent zinc grey deposit of Zinc & metal have Sol free of Cu As Fe

Try this - also make some Electrolytic Zinc this way & use it two months

Wea. FRI. AUG. 15, 1902 Ther.

purifying the ~~Electr~~ Sulphate
Zn by filtering thro
Zn shavings

Showed by ZnOX at bottom
of Top shavings best,
The OX Zn which precip
ferrous sulphate.
Soluble basic becomes
basic from standing up Zn OX

Has stop when Electrolyte
purified thus way & so kept

Wea. SATURDAY 16 Ther.

Continuing during Electrolysis
when Electrolyte is boiled
out at temp of 150 to 200°C
with density of 5 amp per
square yard the chance
of spong Zinc is completely
obviated Density of
Electrolyte 1.4 to 1.6
B—

Wea. SUN. AUG. 17, 1902 Ther.

It looks as if MgCl-Electrolyte
& KCl with saturation of KI &
Zinc Electrode & any Mg
& CP Zinc might be made to
work often all as the KSulphate
increases the solubility proves so
much - Arsenic Cu & Fe
Can be got rid of by the Zinc
Shavings process & several
times depositing the Zinc
or purifying the Sulphate
by Zn Shavings & depositing
off out 2 or 3 times &

Wea. MONDAY 18 Ther.

using this Zinc for
electroplating -

Forming K & dilute by
increasing Sol of Zinc
Ing at the Cathode

Wea. TUES. AUG. 19, 1902 Ther.

If use Zn. + have to have
acid sol of Co Sulphate.
Better use Boric acid for
reducing Acid) Try
Boric + Citric, these acids
probably not ~~act~~ dis the Zn
+ form the Co Solution —
or with Fe as well — Fe will
not reduce the Co, anyway
Neither will Zn to any extent
if sol of Cobl. of course if

Wea. WEDNESDAY 20 Ther.

with oxidizing some + time
would dissolve in the Sulphur
acid used to keep Co solution
acid but Boric acid
would form an insoluble Zn Borate
+ probably keep it out of
solution —

Make an experiment with
Liquorized Zn + dep. it
on ~~[illegible]~~ some of our
plating sol see if it
deposits Co —

Wea. THUR. AUG. 21, 1902 Ther.

Pass — neutralize the Co by
Magnesite or KOH. then
add Boric also use
another sol by Citric
+ see if it reduces Co
then —

Try some Russell & Lesley
Grs mixed with powdered
Charcoal + brought up to
white heat in Pt or Iridium
Crucible to see if any more
arsenic can be distilled)

Wea. FRIDAY 22 Ther.

aff — probably good deal
be reduced to metal on Co Fe
+ make it sol in H_2SO_4 —
Then by putting in NaCl
probably get to Chloride
+ then we get rid Cl of
HCl —

Wea. SAT. AUG. 23, 1902 Ther.

Hydro acid 10% solution should be kept instead of 20% as now used –

For Lebanese use
Silicate of Ammonia
Then form Silico Zincate of Ammonia –
by KOH, also

Wea. SUNDAY 24 Ther.

Set up 5 Reg flat prism in Lettle Cell 250 atmos not test,

Also NiOH + 10% Bismuth Hydrog made so as to give perfectly together

also

Wea. MON. AUG. 25, 1902 Ther.

Jany 7 1904 –
Try the new KSilicate 40 grams in 200 cc
21% KOH in Reg H/7 3/4
Always flat p/ly

arsenious acid is reduced by copper
SO2 to reduce arsenic acid –

Wea. TUESDAY 26 Ther.

Nitric acid in a liquid
When in small quantity prevents formation of the gaseous Hydrides by Zinc. If formed they Deposit hydrade precip a brown flocks on the Zinc

HCl Sp. 1.115 dis arsenic to chloride while Sp. 1.1 does it not well

Stannous Chl strong run HCl. 1.115 - precips all arsenic so if C not be decided by marsh app -

SnCl gives no precip in Reg of Sp. 1.1 but only when strongly HCl -

Possibly Rubydrous HCl - will Corrosive all residual Arsenic into Chloride -

The Sp. will prevent the presence of HCl with excess of HCl it can be removed by HCl

figured without knowing that $CoCl_2 \cdot 2H_2O$ or

The whole dis with HCl & brought up to 300 C & then treated with anhydrous Sulphuric acid & phosphoric anhydride the $CoCl_2$ is not soluble in perhaps some of the liquids organic will dissolve out the

and (2) the liquids in which $CoCl_2$ or $NiCl_2$ is not soluble does all task

Wea. SUN. AUG. 31, 1902 Ther.

In dissolving Sulphur
Concentrating the solution
draws very much
+ adding Sulphurous
need to reduce the
arsenic to arsenious
when Evaporating
down, or add Borax to
throw down the Sulphur
we would be able
to crystallize good

Wea. MON. SEPT. 1 Ther.

after the arsenious
acid is out 1½%
Add in water

Wea. TUES. SEPT. 2, 1902 Ther.

Cold Alcohol only
dissolves 1.68 lb in 100
of 56% — 86% dissolves
0.715 — Absolute
dis 0.025 lbs in 100,
above is for orpiment
for the Yellow arsenic
56% Alcohol 0.5 fd
86% 0.171 fd
absolute 1.060 "

Wea. WEDNESDAY 3 Ther.

Arsenious Ox at ordinary
heat + Chlorine gives
AsCl by gradually increasing
heat gases off in proportion
as AsCl. needed is
arsenic of increased
heated with Sulphur
ammonia gases
off AsCl + Sulphur

Wea. THUR. SEPT. 4, 1902 Ther.

45—

41
19
4) 60
15

Wea. FRIDAY 5 Ther.

Wea. SAT. SEPT. 6, 1902 Ther.

176 | 746 | 4.2
704
0
422
380
6
9,75 2[illegible]

150
600 905
195
25

Wea. SUNDAY 7 Ther.

45
8125
905
1762 7

423
995
2115
2961
3807
4124 25

Wea. MON. SEPT. 8, 1902 Ther.

Arsenic acid boiled
with strong HCl is
Converted to Chloride
of As –
Perhaps by dissolving
Diantimony trioxide +
using strong acids
The As got into Chloride
by prolonging 1st
Mixture just a solvent to

Wea. TUESDAY Ther.

Dis the Ars Chl
NOT the Co Ni Chl 3

Wea. WED. SEPT. 10, 1902 Ther.

Incald Solution of
Arsenic acid
Ammonia Chl precip
Soluble precip of Stannic
Arsenite $2Sn_2As_2O_3$

Magnesia Mixture a reagent
Very little Sol in H_2O
Solubility in sol in Ammonia
Sol – 2600 pts water at 15
15800 Nitry to 3 of acids
846 – Conc Sol of Sol Ammonia

Wea. THURSDAY 11 Ther.

1315 Dilute Sol

Possibly by using Mg
could get out most of
Arsenic from solution
Roasted Herring
at the heat Loses Nitry
+ gives to Magnesia Arsenate
Very Stable at high
Temp

Wea. FRI. SEPT. 12, 1902 Ther.

$CoCl_2$ of Co to BP 111° C
on smelting in $CoCl_2 \cdot 6H_2O$
heated to 116° $CoCl_2 \cdot 4H_2O$
then lost $CoCl_2 \cdot 2H_2O$
at 121 [illegible]
Converted into the [illegible]
salt at 140° C if
pressing [illegible] in
water – is pale blue
& must not be pressed
to air as it quickly
absorbs water.
It goes to $6H_2O$ at once

Wea. SATURDAY 13 Ther.

Hydrobromic acid
Experimented in [illegible]
in Hydrochloric & [illegible]

Wea. SUN. SEPT. 14, 1902 Ther.

Ice [illegible] a Good
[illegible] deep
for new SB Bring
also [illegible]
[illegible]
Dry [illegible]

Wea. MONDAY 15 Ther.

Try Silicate + KOH in
Telelunde – also
for Telelunde Dry cell –
Select a low tube from
good set + force rump [illegible]
it see if it comes OK –

Open up a wet tube
notice leaks etc –

Wea. TUES. SEPT. 16, 1902 Ther.

Hurry up Chem Plant for Darby –
also Rock plant for 004 stock,

Fundent prices Hydraulic press to give same pressure on 250 liters as now gives, find the relation

Test Zinc for flake plating
use of Zn reduces $CoCl_2$
[illegible]
Wea. WEDNESDAY 17 Ther.
plate the Zinc –

Write the Young people
Valentine Factoring
offer 15% to start

Wea. THUR. SEPT. 18, 1902 Ther.

Consider Chem Convert Acetone into Mesityl Oxide – dehydrition of Acetone Mesityl oxide & Acetone Chem at into Condensation products –

Mercuric oxide is used in Acetone in presence of KOH – our tests went bad with Acetone worst of the Hg

Wea. FRIDAY 19 Ther.

Try Curtis flake on acetylene & Carbonic says Copper prices cannot be met with Copper is increased of 0.006% acetylene

Write Malloy that asked, we can spread a [illegible] to deck him to Dr [illegible]

Wea. SAT. SEPT. 20, 1902 Ther.

Black porous clinker glass ok –
5000 Milligms put in bottle for with Sponge end of

1 hour –	5003.5
5 "	5017
20 "	5030
29 "	5050
41	5081
47	5087

Wea. SUNDAY 21 Ther.

Try 5 grms flake Co Test in pocket possibly an quick form perox may be formed & will run

Possibly $Ni(OH)_2$ should have some Cobalt in it that an Catalyzer or it may be band — No yellow has Co in it — Σ

Wea. MON. SEPT. 22, 1902 Ther.

What is wanted for Lalande is a hydroxide that an anhydride of CuOxide to make the action ok –

Tomorrow I shall try CuO_2 [illegible] in $Ni(OH)_2$ which there no impurity

Wea. TUESDAY 23 Ther.

[illegible]
[illegible] Ni [illegible]
[illegible] prepared [illegible]
[illegible] also [illegible]
Anode, Ni [illegible]
+ put in KOH [illegible]
No Silicate [illegible]
Current [illegible]
+ Silicate [illegible]

Wea. WED. SEPT. 24, 1902 Ther.

[illegible]

Wea. THURSDAY 25 Ther.

Wea. FRI. SEPT. 26, 1902 Ther.

[illegible]

Wea. SATURDAY 27 Ther.

[illegible]

Wea. SUN. SEPT. 28, 1902 Ther.

Acid solution [illegible]
Sb deposits [illegible]
Merely neat precipitation
nothing powder

add [illegible] acid
precipitate + Sb [illegible]
in HCl precipitate
decomposition up to 3d

Trisulfide Sb dissolves
in ammonium sulfide

Wea. MONDAY 29 Ther.

KOH forms a precipitate of
trioxide Sb Sol.
large excess
Carb K precipitation
Sol in excess but reappears
after a while —
If however the Sol [illegible]
Tartaric A the precip

Wea. TUES. SEPT. 30, 1902 Ther.

formed [illegible]
in excess of the KOH.

Tartrate of potash as
Tartar Emetic

Copper [illegible] Sb in boiling and
Metallic film
deposited by Kpermanganate

Sb Hydroxide [illegible] K_2O
without decomp

Wea. WED. OCT. 1 Ther.

Trioxide Sb does readily
in Acid Tartrate K

Ammonium of Lithia
Mercuric Sol of HCl with
K Ammonium dissolves
Especially [illegible]

Wea. THUR. OCT. 2, 1902 Ther.

[illegible]

[illegible] SO_4 & H_2O

2 oz Carb K to 1 pt Sb5

[illegible]

melt at [illegible]

12% Sb [illegible]

[illegible] reason [illegible] of Sb

which deposited [illegible]

perfectly [illegible]

Sb5 solubKOH.

Wea. FRIDAY 3 Ther.

Low grade Sb [illegible]

Pentabutyl Sb [illegible] SO_4

Easily H_2O

Get 20 lbs Antimony

Try Cylinder wrapped outside with asbestos or clip on

Vessel of melted Sb to

Chill a record on inside -

Solder ends in -

Wea. SAT. OCT. 4, 1902 Ther.

Pulverize the Cylinder inside ↗

Force it thick 3/16-4 Cold

Use Copper drum reduces

film of antimony on it

from Tarnish Sb+K-

[illegible] Sb [illegible]

Sb in H_2SO_4 [illegible]

Pharmaceutical purposes

Sb is deposited on following

metals, deposited in the SO_4

Zn Br. Sn Pb. Brass. Germ Silver

Wea. SUNDAY 5 Ther.

[illegible] deposited on

Copper by immersion

Does a vacuum exist in

Warm dilute HCl_{aq} -

Wea. MON. OCT. 6, 1902 Ther.

[illegible]

[illegible]

[illegible]

Thu. Sol Cobalt well goods
[illegible]
[illegible] on brass
[illegible] $SbCl_3$ alone
[illegible]

Wea. TUESDAY 7 Ther.

Wea 2 lbs H_2O 4 lbs H_2SO_4
8 lbs Tartrate of -
Sing this is the best of all
Sb plating sol — where is
the Sb — or does he mean
to do tartrate of antimony
in it — I guess this is
what is meant, ?
bottle marked strong sol

Wea. WED. OCT. 8, 1902 Ther.

Sing keeper works, comes
along fumes without bad
plating 4 Cm elegant 1/4"
thick!

Coating Copper by simple
immersion
Dis 1 oz $SbCl_3$ in 1 pint
alcohol add 8 oz water
liquid clear. w/ show
Copper is coming out Coat

Wea. THURSDAY 9 Ther.

Try Regmit on nickel Ni
8/12 in Round Cathode
plated Ni also Ni
+ Cobalt plate were that

Try this plate of
Antimony over Copper
or sheet stock of it
well stuck off on KOH

Wea. FRI. OCT. 10, 1902 Ther.

Antimony Completely Volatilized at 130° Cent

When 3 grams of Sb (ic) ox is boiled with a sufficiency of Sol of Tartaric acid 1 Mol of Potassic chlorate for every 5 Mol of the acid present the process must not be left to dilute, for Sb2O3 is dry

~~Sb2O~~ Sol Na2S, mix with

Wea. SATURDAY 11 Ther.

NaCl to increase conductivity according to Kowalski (Chem. Report) powder of Sb ores Sulphides — to quench Na2S not to be wasted in excess Rio —

Highly valuable potassium antimonious fluoride —

Wea. SUN. OCT. 12, 1902 Ther.

Oxalate Sb+K SO?

If Chlorine of a strength of not more than 7 per cent deposits good crystals Sb — but additional SbCl3 comes at 6° Sp. Gr.

When a Sol of Antimonious Chl containing free acid is exposed to air

Wea. MONDAY 13. Ther.

it will absorb O + also more Sb —

Dissolve KS Sb S — then neutralising polysulphide fumes

Danger fatal 250 Vol 7 9 00

Separating ores by Hot KClO3 gas —

Wea. TUES. OCT. 14, 1902 Ther.

Hydrofluoric acid soon dissolves
depending the Cyanides as
amorphous Gelatinous Dyes
& the Solution unlike
other Sp Salts is not
decomp by water
Cyanides evapts to Cyanides

Illuminating Co
St Francois Co

Wea. WEDNESDAY 15 Ther.

Hollow Reverse
one of the powers
of the 100 [illegible]
use of trying [illegible]

Try dipping drum
in [illegible] | Zach lime
then [illegible] of my
in Co [illegible] 30 sec

Wea. THUR. OCT. 16, 1902 Ther.

also in Cu gives —
also try. Chloride of
Cu — Acetate Cu
Formate Cu
Double Oxalate Cu
Trichloroacetate Cu

Hose up & down & take out
when getting in solution
of Cu —
also Chlorine in
Cu

Wea. FRIDAY 17 Ther.

also prep of [illegible]
Iron —
try Jarbeck Cop
Cal. etc
Ethylsulphate Cu
Crystals
try camphor cal in
Cal Sol

[illegible]

Wea. SAT. OCT. 18, 1902 Ther.

perhaps good made by added in Cu attending the Co by Boric Etc,

Quite forgotten what has become of that large Cyl of high priced phono

Wea. ~~SUNDAY 19~~ Ther.

It may be that Ky Cons. with Mr Hale & others unknown or something in the Kott Tariff or from the Bros or the Off. Cons. in with the Co of Eng & not being profitable in Kott after Cowan worked had Contract

Wea. MON. OCT. 20, 1902 Ther.

Take up with Hesler Bl & Co Ltd about going ahead with Steel Rolling plant bottom of my Reco Bldg —

Experiment Wind & Gas Engine oil Wagon Spirit Engine Electric Etc

Consolidated Mechanical Services Co. to trial the process of

Wea. TUESDAY 21 Ther.

the ~~B~~ Smelting Co of Australia at Dapto New South Wales 1904

Report of Mechanical Co in Lehigh Co Idaho Go low shipper no sample thereform 1905 nothing in 1903

Wea. WED. OCT. 22, 1902 Ther.

Standard Gold Co mine
Grant Co Oregon

Si 47.86
S 4.43
Ca 20.18
Fe_2O_3 17.28
Al_2O_3 0.12
CuO 2.85
Co_2 1.94
Cobalt 6.54
Nickel .25
Gold 0.017
Ag 0.0028

Wea. THURSDAY 23 Ther.

101-7495

Co inform accounts

Some Ni ores from developed work on mines in Hemlock, Floyd Co Va & near Wilkes Jackson Co NC

Wea. FRI. OCT. 24, 1902 Ther.

See arsenic works method
US Geol Rep 1903

US arsenic mines Co
now why Rewald Post office
Floyd Co Va Forsythe gold mine
Alabama & Georgia
worn out - lot of

Write Commissioner
of mining Reports
Colorado & the
Knows anything about
The Sterling Mining Co
mines Gunnison Co

Wea. Co C SATURDAY 25 Ther.

~~[illegible]~~

Also write to Commissioner
Utah, of the Bureau of
mines & mining & prospecting
Salt Lake City
Cobalt

Wea. SUN. OCT. 26, 1902 Ther.

Mn ores occur in
Bibb Co near Woodstock
Ala - in gneiss
at Stocks Mills Cherokee
Co Ala.

Georgia -
Cartersville District.
also Cave Springs Floyd Co
Beds mines Carbyst
4½ miles NE of Cartersville
Clay deposits
Large proportion of low
grade ores - Thus Cartersville
also Etowah property
big deposits

Wea. MONDAY 27 Ther.

Mn ores
Mecklenburg Co - near Warm
Springs - Continuous belt
of Mn ore 8 miles long
1 to 3 miles wide -
Light Blue Mn ore

Wea. TUES. OCT. 28, 1902 Ther.

also Caldwell Co,
5 miles west of Lenoir
also Parlyns mine,
10 miles W of Lenoir
also 10 m north of
Dobson in Surry Co
NC
also 3 miles W of Blue
Ridge Gap - Mitchell
Co - Seam 2 to 4" thick

Wea. WEDNESDAY 29 Ther.

Emery
also in Nash Co
& Jackson Co.
Chatham Co
Series of beds of
Mn ores worked
with Kings Mt & Patter
in Gaston, Lincoln
& Catawba Co which are
superficially changed to Mn

Wea. THUR. OCT. 30, 1902 Ther.

one interesting locality near old forge on Crowders Creek on W bank of Crowders Mountain.

S Carolina

Dore Lands near McCormick SC

Wea. FRIDAY 31 Ther.

Jenn Hickman

Also Green Co with Dennis at intervals at the foot of the Sylvania Eastern Mountains (Unakas) all the way from Va to Geo

Wea. SAT. NOV. 1, 1902 Ther.

Then found all down the Chilhowee tilt range

Here occurring some

Six miles from Elizabethtown Carter Co.

In the Triassic itself near Clinton, Hunterdon Co N.J. There is no [illegible] opinion [illegible]

Wea. SUNDAY 2 Ther.

[illegible] Low gro [illegible] 47% [illegible] 7% [illegible] 25% [illegible]

[illegible] gravel [illegible]

Coeff 0.63

also found — the Triassic Trap.

Wea. MON. NOV. 3, 1902 Ther.

Arrived Co 6 pt [illegible]
in Kalsey [illegible] at
Compton Los Angeles Co
Cal. [illegible]

in N Carolina [illegible]
is from the Cherokee
Co [illegible]

Wea. TUESDAY 4 Ther.

S Carolina
Hard Labor Creek
& at Dorris Mine —

Etowah is in Bartow
Co Ga —

Wea. WED. NOV. 5, 1902 Ther.

Woodstock Elation [illegible]
Calhoun is a [illegible]

Wea. THURSDAY 6 Ther.

Wea. FRI. NOV. 7, 1902 Ther.

The Grand Canon Mines
near Silver City
Colorado Contact
W. Mountains +
Lincoln mountains Co

Co with Brewster in
Grant Co Kewitt
near Bullards Peak.

Wea. SATURDAY 8 Ther.

Chalcedony Mines
Mountains

also Ludwig
Carters Mines
Copper near
Mesons Valley
Co Mercelda Co
Nevada

Wea. SUN. NOV. 9, 1902 Ther.

Chalcedony, black &
brown 4 to 6% Cobalt

At Dracut near Lowell
in Middlesex Co Place
Veins of Nikeliferous pyrrhotite
opened, Co specimens
white-faced perhaps the
is the Chandler mine
deserves mine. This was
good ore — Seller was
Supt then 1877 it was
opened —

Wea. MONDAY 10 Ther.

Nova Scotia
At Bathurst near
Rhapsody Mountain at
Quacol & Upham
at especially the hollow
place near Bonnie
of Hammond River
Lead is very abundant

Wea. TUES. NOV. 11, 1902 Ther.

We have found
West vein from Hill
Covered with only few
inches of soil West
of the Connecticut River
It is now Conjecture —
the primary rock region
especially in Leverett
Whately & Conway
occurs in low places

Wea. WEDNESDAY 12 Ther.

in Plainfield in
Talcose slate rocks
Manganese
at Conway vein block of
Manganese 5 inches (?)
wide - 52 part of
Iron Quartz gangue
Mn not very abundant
on surface —

Wea. THUR. NOV. 13, 1902 Ther.

Not explored Think
be found large quantities
Exclusive bed or vein
on top of a hill in
Hinsdale Nth,
adjacent rocks not
visible —
also bet 1 & 2 m E of
Center of Village of
Nth.

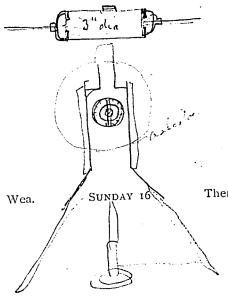
Wea. FRIDAY 14 Ther.

Block of Mn

We noticed at Sharon
Rocks bedded
with Cobalt blue slag
Will investigate Salisbury
Region —

Wea. SAT. NOV. 15, 1902 Ther.

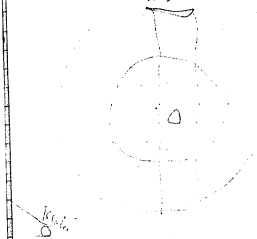
John Oll make a Roaster



Wea. SUNDAY 16 Ther.

To roast pyrites therefor Cobalt Separation —

Wea. MON. NOV. 17, 1902 Ther.



Wea. TUESDAY 18 Ther.

Have Dr Fry Homestead Sulphide process on a 0.60 Wad Wash or RDC for 50 mesh Crush & 100 mesh Crush 24 hours, insufficient Sulphide see what Efficiency is —

Wea. WED. NOV. 19, 1902 Ther.

Write Edward F Pittman
Govt Geologist
Sydney
New Smithfield
for Copy [illegible]
of he has maps of
patented & unpatented
locations same as
Canada [illegible]

Wea. THURSDAY 20 Ther.

The Capitol Wed
deposits are fairly
well open for prospecting
or lease generally
Elsworth Owen
Phone man [illegible]
details
of Gold mining in Sydney
or Gisborne [illegible]

Wea. FRI. NOV. 21, 1902 Ther.

Coal & [illegible] to
Bungonia also Port
Macquarie. Ints —
of cases & there the [illegible]
species & all varieties
are plent. [illegible] of Esther
[illegible] or [illegible]
or [illegible] on [illegible]
Labours [illegible] Mines [illegible]
Board etc,

Wea. SATURDAY 22 Ther.

Make some oval
tubes with rings
& let them expand to
round —

Order some [illegible]
Glucose, also some
more C P Sulph
glucose,

Wea. SUN. Nov. 23, 1902 Ther.

Cowley to place
some Anodes from
Otising. Chemical Co.
also some Copper from
Chrome Tal [illegible]
low voltage —

from Upper anodes
small Gold flake with
62 plate to test
if CP anodes +
2 platinum wires also
the problem without
or with Chromic —

Wea. MONDAY 24 Ther.

Bergman to have
Nickel + Fe stripped
at rate 50 cells
for 6 weeks
then 100 cells old
mxp

Wea. TUES. Nov. 25, 1902 Ther.

order new 300 Gal
Hydraulic for [illegible]

Sufficient Facilities
Welders for plan [illegible]

also Bergman new
Iron filter —

Bergman to get
drawings New
tube filter tube
drawing — rings —

Wea. WEDNESDAY 26 Ther.

Ender + Ugrin —

Order Copper drums

Design Soaking Tanks
for flake — K Cy
Washing Etc.

Sheer made good
also good chromic

Wea. THUR. Nov. 27, 1902 Ther.

test Little R. & Co
for Nelson Road Co
pipe line & other
Ranch Lands all.

Wiley Come to Orange
see about 60 p. month
Silent - our new Store
Set Cement,

John about money
for Cement will let
money -

Put tools & N.Y. p. stand
Co stock away
write in Name for
transfer -

Wea. FRIDAY 28 Ther.

Wea. SAT. Nov. 29, 1902 Ther.

arrange Berryman 20th
same Wed. 1 o'clock.
2 Lock at Cost
until we get grain
here -

John about
test Chains for Cement
Contract test with
New pavement chain
against new ones -

Wea. SUNDAY 30 Ther.

Weber about Closing
End 18 ft Lock & put
in Elevator heat
Do we can keep
Neo Bldg -

Wea. MON. DEC. 1, 1902 Ther.

Wea. TUESDAY 2 Ther.

Wea. WED. DEC. 3, 1902 Ther.

gq Kichline
Palmdale
Los angeles Co
Cal -
gave samples Co
Ors -

Wea. ~~THURSDAY 4~~ Ther.

KDC - 1076 - 1078 1079
Wad 20 ft thick
1/2 mile long

Wea. FRI. DEC. 5, 1902 Ther.

group [illegible] 6 Max
Water - good flake
4000 glass

group [illegible] 6
Max ammonia
good flake 4000 g

Reg group 21650
[illegible]

Wea. SATURDAY 6 Ther.

Thick glass

Reg group soaked
only once 12 hours

group put right
in not soaked

Wea. SUN. DEC. 7, 1902 Ther.

group green put
in Strong KH 24
hours dried out

group in 7H 1/0
KOH, 24 hours
rinsed [illegible]

25% Cobalt
precipitated with

Wea. MONDAY 8 Ther.

72 - showed work
as green proof
without Hg the
Co never revivifying
Fluid metals
a Conductor —

Wea. TUES. DEC. 9, 1902 Ther.

group Dunlop numbers
groups on after
growing —

group 6 run in
15% [illegible]

21%
MacH

Wea. WEDNESDAY 10 Ther.

group run in 15%
MacH

Select 1/2 dozen second
tubes soak out dry
& then use the mix
with 7000 Co flake
mix thoro & pack in
fresh tubes (6 tubes)
run in bath for 3 days
& in mud

Wea. THUR. DEC. 11, 1902 Ther.

group 5000 glucose 900 flake
" 6000 " "
" 7000 " "

Patent ruby flake Co
flaking Mt Co Mt Co
developing out Mt Co
Hay —

Make some flake Co
sheet 0001 00005

Wea. FRIDAY 12 Ther.

Run thro Hydrogen &
test on off side — Kept
for endurance — dulls
not run thro H dulls
run in Nitrogen —
dulls off at high temp

group 1/2/1000 Co
flaked tubes on each
side underexposing
1/4/1000 —

Wea. SAT. DEC. 13, 1902 Ther.

Dumps at Cement for hopper so belt gets dust not there. Cement fine in 1 to — least this reason top 6 lines who other than 132 with same 5' dumps —

~~Group without tar, 4~~

~~group soaked 1 hour~~

~~in 2% sulphuric chlor~~

Wea. SUNDAY 14 Ther.

~~Group Thrp 50 all fines in~~

~~" " 60 "~~

~~" " 90 } 4 also glass~~

~~" " 100 }~~

~~9000 flake —~~

Wea. MON. DEC. 15, 1902 Ther.

Take regular morn change & dressings, one or 2 times or take old mass from dressings; change fully soak out in alc. 1 hrs, & press 250 out in vacuo also of dest heat dry out in air & press of heads dry out in Vac & press also try with Reg Hg Fulm & new Cutting Grove —

Wea. TUESDAY 16 Ther.

Try pyrophoric iron from boiling pressure out blue

Precip Manganese as Metal oxalate 10% Mn(OH) — test in bubbs getting not MnO_2 by changing KOH until not bad,

Wea. WED. DEC. 17, 1902 Ther.

350-1-2 [illegible] Copper Plate 450-4
353-4-5 " " " "

Try Acetone in Lebanon
Condensate the Zn dissolves Hard
in the KOH, the Acetone holding
it in Solution or better add Methyl
Alc to the KOH Continuing
to add more — Then will keep
the reduced Cu of [illegible]
Zn Dissolving well. —

Try Cells with Acetone
finite group

Wea. THURSDAY 18 Ther.

with KOH, use of Hydrat. Pt
by heating it over a
Gas or Gasoline flame might
be good for dehydrate
Eng —

Wea. FRI. DEC. 19, 1902 Ther.

To get porosity in the Pt, precip
something with it insoluble in
acetone or low temp
like Camphor Chloroform.
Naphthalene —

precip Mn SO4 — Hg Nitrate —
Hg Nabb, dep. precipitate
then precipitate with Weak KOH
& Acetone to dissolve the
HgO —

Wea. SATURDAY 20 Ther.

Take old more plate or
dissolve out KOH, then dry &
remove the Pt — powder &
make new Cakes, run
also with Cells & new mixture

Make old & new Pt ores
in Lebanon — Chg & dis —
then Corrugated at 1.25
& to Consolidate then
in gravin dis chg fully
get KOH out & Re Cor to 2.50 at

Wea. SUN. DEC. 21, 1902 Ther.

350-1-2- 9.5 gr Nitrate 25 grains in Co Plate then 15-45 oz Water
Cobalt nitrate - 50 DT 1 oz Ferro Iron 1 oz pkg -

352-4-5 21 oz alcohol 22 oz, 9 oz Collodion 50 DT
1 oz pkg more before pkg 45 oz glue Co plate

356-7-8 gr 21 950, then 20 grains nitr in Ni plate 1 T
50 DT - 450 glue - wet Stripper

Perhaps best thing to mix with
Nitrate for porosity is a Sulphate
of an organic base mix alum
with nitrate but not an
Organic Substance, the Nitrate
is organic but falls great place
for instance Sulphate Magnesium

Wea. MONDAY 22 Ther.

Co, on account of great
Atomic wt very little
of Organic base in a Co
like porosity

Chl Ammonium at high temp
decomp & form Chlorides
but no Combin with any
Acid gives off Ward

Wea. TUES. DEC. 23, 1902 Ther.

Replate to make some Nitrate
with all the green salts left in
portosh with tube Cells
200 gr nitrate -

Mix 7 oz mix with Cobalt
flake, more - Replate
plates 250 DT

get 2 oz old Ni plates
& use more in

Wea. WEDNESDAY 24 Ther.

Collect those
red yellow Crystals
so Dr Cram analyzing

Mercuric & Cobalt
with Lime form
roughly Sort Salt
many 6 or 7 ing
have in Ni plates
only Ba metal

Wea. THUR. DEC. 25, 1902 Ther.

Group 4500 2/10000
thick - 4000 gch
21000 - 6200 to —
50 - 1 mops. Co plated

drop Ni plated
also 6000 flakes - 2/10000

Make Nickel plate by
Cu Ni Cu Ni etc
also Cu for wood &
H_2O_2 also Sulphide
& Hypo - H_2O_2 etc -
also H_2S - very acid
Solution - which causes
CuSt. deposits - also
anode in KOH with
Tanning, Salicylic etc

also plate Ni Fe
Ni Fe - dis Fe acid
use Chlorine

Wea. FRIDAY 26 Ther.

Wea. SAT. DEC. 27, 1902 Ther.

1 Group Co green 21000
absorbed to 22000 Co plated
good flake 4000 glucose
detto Ni plate.

2 Drop 21000 absorbed to
22500 - Co & Drop Ni plated

3 Drop 21000 absorbed to
23000 - both Ni & Co
plated Lubon

4 Group glucose with
2500 glucose -
add No 1 2 3 4 4 to
know green thus
40 mesh —
Drop the whole
batch again
through 80 mesh

Wea. SUNDAY 28 Ther.

Wea. MON. DEC. 29, 1902 Ther.

Received in big Experimental book to try on Embalgumph with Carb Strontia, every kind of liquid other than KOH. which burned not real on the Sr Carb –

glycerine Camphor. fr chloro also Ca to separate on KOH – try group with 250 mely glycerine

Wea. TUESDAY 30 Ther.

also group with 500 mely glycerine

Ask Ralph How perox Barium do for getting rid Co & H_2O_2 at same time – it also cheap

Wea. WED. DEC. 31, 1902 Ther.

group of Ni & Co plated in 21% KOH, made by precip K Sulfate in Ni Vessels by BaOH,

Series of groups in low & medium – 4000 gluc

different thin layers

900 a Cyclohex – thick

20 40 60 80

NOTES FOR 1903

dis Chl Ni in 95% Ethyl also Methyl alcohol

Prec cup by Alcohol

Pa Ring – [illegible]

Chlorine at a pressure with [illegible] groups

Name	Residence
Group thro 60 — 9000	
40 do or 4500 — 100	
Quangle Tumpes —	
also group 75 singles	
Big Int sing 3 times 21000	
thro 40 + 4500 — 9000	
Ni tubes + Co tubes —	
"filled" in tubes by fermenti	
Group Ni Co tubes	
Zero ohms to 2 600 —	
4000 + 9000 thro 40 mesh	
but mixed a long time to	
distribute [illegible]	
also Zinc [illegible] 22000	
mixed long tubes	
thro 40 —	
Group Reg 4000 9000	
21000 about — 50 T.	
Soak Hot old way 1½ KOH	

Name	Residence
dello Deep hot 135 in	
21% KOH —	
Group Reg run in 10% KOH	
10% NaOH —	
group Loop thus way mixed	
before plug —	
Group Reg percolate out	
then dried then Run Reg	
dello Ni plated —	
dello after drying	
Soak Conc MeOH	
Methyl al — dry +	
then put in 135 Temp	
21%, put CP coil	
group Ni plate —	

Duplicate - Very Essential

detto - Soaked Bacillus Solution -

Group having its green Soaked in a Dof Bacillus Dof, then boiled KOH, Mark the Bi not a colon [illegible]

[illegible] Solution not decomposed by H2O
If infer - Proceeds Bacillus Solution
Either (1) Proceeds by adding Metal Bi
To mix of pure pts Bacillus and Impure Solution
Fro O.H. Use KOH [illegible] and
Good fever said [illegible]

also group with [illegible]

Take out the one Ni flake group that had [illegible] & Boil then in 15% KOH + then put boiler [illegible]

other group put in 1% KCy for little [illegible] -

Make 9 tubes with green only to flake tubes +
Dup of 9 tubes Ni flakes tubes green only - Dup on
To determine if [illegible] has anything to do with Ni

Examine No. 63 4+5

Group Reg 21000 good 4000 - Single Temp
Co tubes 6 in group
Dup Ni plates 6 in group -

Soxhlet couple descends Cobas
in old beat Hypophosphorous +
also. Arsenic + one other chief
gives beat results before —

Heat green in KOH, 2½% containing
~~[illegible]~~ Iodide K to 155 fahr
acc of changes color — say 2½ KI
ditto 2 or 3 from Aluminum.
ditto Hypo in Acetone in KOH
ditto Silicate K + H2O —
If changes color poly Cobalt —

½ pale in KOH, Vanadium
Salt strong — ~~[illegible]~~
~~[illegible]~~ act steady no reactions

Wad — powder put in KOH,
pass chlorine to peroxidize
Mn + free the Co Ni —
wash & also by ammonia
also by H_2O_2 + then
Exhaust ammonia —

Green mass treat by $HgCl_2$ in
Methyl pyridine Nitrogen
Methyl pyridine + dry
then dissolve hot water —

ditto Ethyl pyridine —
also with Ethyl diamine water insol
but mass —

also other Ligands
organic in cobalt
$NiCl_2$ Salicylic —
glycerine, Etc —

Aluminum hydroxide also —
Methylamine but not in
ammonia — $NiCo$ Cl dust
also — acc of Copper dozes —

Sodium Hypomolybdophosphate
Sol alcohol, drives to gummy
mass from water repeatedly
from Col. alcohol, Binder —

Sodium Telluromolybdophosphate
thick gummy sol on Evap
transparent Colloidal
mass Binder

Quinsecate sodium is used to remove mordant & dye from cloth —
possibly it may be the acetate which improves the old pockets removing the iron —

Na Hypophosphites very not when combined alcohol tightness on old & dry liber — also if dilute this ferric ox. & all oxy — not Nitric

Quinone, this sub has greatest powers of Crystallization known
Even of small quantities one sublimed the crystals are one mass body
dissolves in some quantity in boiling water & it is so Volatile that even at ord. temp. it sublimes from one side of the vessel to the other
strong acids & nitrates sugar
Sol hot alc & Petroleum Spirit

mix of Quinone & Quinol
Equal molecular forms
Quinhydrone, Most beautiful
Sulfing Fuchsin, Fuchsin
band O Cornelle into
Quinone & Red may exp. into
Quinol — Battery
Quinone is a powerful oxidizer
& a powerful depolarizer
reduced to Quinol &
reoxidized to Quinone
Strongly Acid —
Quinol is Crude
Hydroquinone trouble
is called off Sol in Hot water

Have tried all Experiments
all the old Liber & Enter
them in My book & leave
at Rogers —

to make silicate K think
Can use Solid KOH, melt it
& add the hard powdered
glass K Silicate, it will then
dissolve & solidify on
~~heating~~ or Can then Go
round up first to Chloride
& Silver Solid,
or NaOH & K Silicate done
same way

Smoking Nitric fuming
will not H_2O_2 or some
oxidizing agent like it turns
Cu S to Sulphate & nitrate
& dissolves

How about perchromate
KSO_4 Sol acidify & neutral

Hypochlorite, test at first if
possibly Sulphuryl Chloride
& attack it lightly
Hypo-Lime

Fuse Acid Sulphate K
add ferric oxide —
then Roasted Arsenide
Raise heat till no more
white fumes comes off

Result Sulphide Cu Ni
which not decomposed
at Red heat &
Arsenide Iron which
when all SO_2 driven off
is absolutely insol
in the neutral solution
its insol in all
Neutral Sols —

~~Lixiviate~~ Lixiviate &
precip by Carb K —
The Sulph K after,
removal Cu Ni
made Bi Sulphate
a gram & used 005
no arsenic Even by H.S.

Date		Dolls.	Cts.

of mixed Chlorides of Mn Co & Ni are ignited & a stream of Hydrogen is passed. The Co & Ni are reduced to the metallic state, giving off HCl — Whereas the $MnCl_2$ is not effected.

Statement in Watts on Mn = Sep from Ni Co

With water, whole dis in HCl, evap & put in Cylinder ignited & H passed — HCl absd in water —

Whole dissolved in Water & MnCl + FeCl + etc. H passed from — leaves Silica, Co Ni Etc. —

Date		Dolls.	Cts.

The MnCl + FeCl ignited in aqueous vapor to decomposed to HCl which used in fresh batch.

The Si Co Ni dis by HCl. Made subsequent Co separated by electrolysis, both ignited in H to get back HCl,

No loss HCl — by this process —

H made by ~~[illegible]~~ Reducing Fe_2O_3 by Co, then passing Water Vapor — then CO Etc —

NOTES AND BILLS

Date	Drawers	Time
	Roasted Cinnabar Co — H2S Roasted while H2S — passing. As sulphide. Violent burning of sulphur. $FeCO_3$ H_2 remains —	
	to obtain H2S pass H over pyrophoric hot gases H2S + prussic phid.	
	Separation Hg Co — reduce by Hydrogen to metal pyrophoric Let in KCy dissolves the Mercury — this is better & cheaper than Cadmium	

RECEIVABLE

No.	Where Payable	Due	Amount
	Gas retort, Briquette pass by pass H2 — Precipitate previously coat with probable Mn from solution Co Ni Green Group by H2S Sol neutral by Chalk Mn — Thus zinc closer to a group acces for bright — heat to red — Natural with Impurities & Alum growing in — Exhaust by water Keep Co H2S in Nickel Sol Solution in parallel One Chief be used to keep sol neutral if really green — get H2S by AlP + pyrophoric of MnS	

NOTES AND BILLS

Date	To whom given	Time
on	1 50 Hal. Corrugated with rings on after fully accurate group most, – Trip	
	21000 Ilus 48 –	
	9000 Coffeeli – 4000 glue	
	Corgate 150 at rings on after	
	dills Corrug	200
	" "	250
	" "	300
	Hunk Hyper chrome by dippled – with Co & Ni tubes – also Dup group	
	Run Cold –	
	also group thro 20 Cot Ni tubes – Heat runs only –	
	Above with Burs outside – also Reg Ilus 20, burs outside	

PAYABLE

No.	Where Payable	Due	Amount
	Group with	Chlorate K	
	"	Slomate K	with
		Alburnen K	
		Humate K	
	M film on Cu – mix chromic acid & sulfuric, see of dis Cu – not Ni – dilute Sulac & peroxide hydrogen also soak H_2S a little acid – then Chromic & Sul acid, H_2O_2 & Sul acid, alternately		
	Soak polysulfide K, H_2O_2 or Bichromate K – or Permanganate K –		

Date	Received	Paid
Nov —		
Book Red from Sheffield		
with Nitrate Bismuth,		
Nitrate & Nitrate Cad		
Nitrate Ni —		
T Iodide lead Cyanide		
1/5 of 1/10 oz Cobalt		
Flake — mix 7% Red		
also 1% Red of Ag		
Iron from pickling Nitrate		
Chloride — dec H_2O —		
Prussian blue —		
Cuprocyanide of Iron		
Teamsign deduct Hg_2O —		
Plate Zn & Fe together		
Eat out Zn by KOH. Hot.		
Dond forget change		
Reg union — Soak out		
KOH by alcohol		
dry & heptane to get		
off more bismuth — fund S.		

Date	Received	Paid
dissolve Ferric Chl in alcohol		
dilute KOH in alcohol		
precip + boil + wash + test.		
Try some with Ferrous		
Chloride —		
dilute FeCl ferric &		
Cupric Chloride mixed		
— alcohol & precip		
by KOH in alcohol —		
dilute Ferric Chl &		
Cadmium Chloride		
Mix weak + with Hg —		
for work by Fe & Cd		
could work Nickel		
together,		
Try Cd alone mixed		
with Hg & wet test,		
also Cd + Bismuth,		
Fe + Sb + Hg or not		

Date		Received	Paid
	Dyer posted new things on New Rolls -		
	group Mickels tube proceed by putting in punch from temp, then punch holes, temp also he about 45 Sections, No Glucose — Drop this group a Corrugator		
	group with Sulphide Centrum 500 grm in KOH Each dell — precipitate Sulphide		
	Group Warm green this Soak in cond Chloride Ni + Methyl alcohol — dry a then 9000 feeder 4 h Cuoxide — put tube in 1½% KOH, soak out of Cuoxide & funnel bottle in 1½ KOH to get rid Basco Soda —		

Date		Received	Paid
	ditto a group 9000 — 4000 gelte soak out dry then soak in $CuCl_2$ in Methyl once a month — then out in KOH 10% on brass ready to boil —		
	drop above by Corrugator		
	Remove groups Reg tubes good — 4000 burs out		
	200 of Hypersulphite Soda dissolve. Copper a double salt is formed - dissolve 6 - dissolve this block — 20 grm Hypo & dissolve 100 weight Sal Cobic Calcium put through the flake & Cu prep by KS a Thiopro represented — Thanks for Market feeder on Cop.		
	Try Sulfate of Ammonia Sulphate —		

Date		Received	Paid
	Group in acetone —		
	Pass acetylene over Cu Coffin		
	2 drops 2 pts Copper —		
	Spec Co Cu not use Copper		
	Gypsum —		
	Make some green with		
	1 2 5 & 10 drops Cobalt		
	in t = test in tubes.		
	Group Reg Ni measured		
	opalite 50 T.		
	also Comparison —		
	also with green — group c		
	& glucose —		
	Distill ferric chloride		
	to get it pure at lowest		
	temp —		
	Then fractional distill. in		
	spectro to see if		
	there is not more than 1		
	product ~~[illegible]~~		

Date		Received	Paid
	Get 2 or 3 lbs		
	Opalite from absolutely		
	CP — & make some iron		
	Mix + CP Hg —		
	see if Reconstitution improves		
	Series of groups of 3		
	Reg plates Rudolphs then		
	prepare from —		
	No Hg — then 1% 2		
	3 5 7 10 15 %		
	Dep with no Hg		
	1-3-5 10 15 25 Copper		
	33% 50%		
	Dep 1 Cu 3 Hg — 5 Hg		
	7 & 10 Hg		
	Dep 3 Cu 3 Hg 5 7 & 10		
	Dep 5 Cu 3 5 7 & 10 Hg		
	Dep 10 Cu "		
	Dep 15 Cu "		
	Dep 25 Cu "		
	Dep 30 Cu "		

CASH ACCOUNT—APRIL

Date		Received	Paid
Dup 3 Bismuth, 15 25%		5 7	10
Dup Bi 5 Hg 3		5 + 10	
" 7		"	
" 10		"	
15		"	
25		"	

Reduce some New Fe Cl
New process to Non-3
pyrophoric state,
then dose 15% Hg &
test, 1 gram test
by ~~[illegible]~~ washing
+ Reprecipitating

Dup above 4 with
Iron mixed with Copper
Same as 1 Ralph
by equally Sulfate
Then 30 of Sulfate
+ Ra equally

CASH ACCOUNT—APRIL

Date Think this Received
a good process
Dup & put Hg
in as metal,

Hole 1 - 44" deep
Accepted 1 44" down
to Quicksand under
No 2 35" down
3 30 - This is non
Cop - 4 - not above non
Cop 24" down -

1½ is all but 1+2 -
2½ is all " 2+3 -

The Holes 44" deep
Bottom of non Cop is
8" up from Quicksand
its 6 or 5" thick of which
2½" is block

Date		Received	Paid
	Hole No 2 42 inches from top to Black Cliff —		
	Very black 6"		
	18 of dark brown		
	all together 66" deep —		
	No 1 to 18		
	2 6" black		
	3 36" black sand		
	4 5" Jap soil		
	group green moistened with NH4 NO3 then g Cu		
	Reg group M & Co cooked with 5% ammonia carbon (with) of KOH,		

Date		Received	Paid
	also group green absorbed ammonia 24 hours, Dry ammonia no water — M & Co		
	also absorbed water NH4 24 hours & dried & cooked out in 5% NH4) M Co		
	group 4500 black 1 Rho 50 — 4500 Rho 20 — green Rho 40 — M Co		
	Drop above green absorbed Dry NH 24 hours		
	It probably MnO_2 reduces before any CoO_2 reduces hence CoO_2 works because Conductor mixed M wood up — group green 5% CoOH, 10%, 20%, 33% —		

Date		Received	Paid
	Make set of tubes to be Exct #grain with 30 40 50 60 70 & 80 mesh grain — good flake & from these results make variation with diff mesh with less flake		
	group with Central tube 1/16 dia perforated also solid		
	Mplating Co furnished tubes 3 tubes		

Date		Received	Paid
	One box to 160 degrees to test specials = groups to get quicker results & Comparisons		
	Soak dried specimens in some organic Compd that will give off, & the tubes get free		
	Groups pkd with tight fitting plungers also group pkd with much smaller diameter plungers than Reg		

Date		Received	Paid
	Worth Sulphur Heat		
	Column helpmate the		
	Beans put 3 times		
	as much Microbes		
	no Money more		
	Pagio Measures		
	NaCl + NaSul - got out by		
	Chilling to 1° Cent, column		
	4/5 of Sulph Anyside		
	Yours truly		

Date		Received	Paid
	Group 21000 lbs of Ore		
	Goods f 4000 Lead		
	3 1/2 Lbs Mr Co Clubs		
	ditto 4 lbs Mr Co Clubs		
	" 4 1/2 Mr Co Clubs		
	" 5 Mr Co Clubs		
	group Reg lot of		
	Co of Mr Lubon		
	Play in Bullie		
	48 or more hours		
	Hot plate iron mix		
	Mr Co plate with		
	mix —		

CASH ACCOUNT—AUGUST

Date	Received	Paid
Chicago Milw & St Paul 4s 1989	199½ Rec	117 ad
gen'l & Sec B 1989	97½	72 W
C & Northwestern g 3½ 1951	102 3/4	99 7/8
		20 W
N Y C & Hud RR g Mtg 3½ 1997	97 7/8 R	
54 W	99 7/8 C	
West Shore g 4s	Reg 106	
	C 108	
Lake Shore g 3½ 1997	100 5/8 C	
50 W	99½ Reg	
N Y & Harlem 3½ 100 yrs	101½ C bid	
	~~105 1/8~~	
12 W	101½ bid	
Reading gen'l g 4s 1997	C 103 2/8	
	Reg 102 3/4	
60 W	bid 97	

Groups Resin & mg
various chemicals
alcohol

CASH ACCOUNT—AUGUST

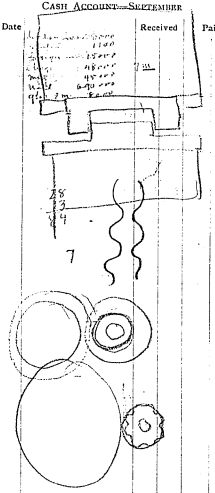
Date	Received	Paid
Group 40		
absorb dry ammonia		
3500 glue goods		
Co Alum Refg		
Press 1 needle		
Rings on file		
Group Reg KOH, saturated with Batch, 2 excess		
Sat — Co N Lake		
Group Saturated KOH with Lime — excess put in Co N Lake		
Group KOH saturated with Carb Barium 2 excess Co N		
Dilute Sat with Carbonate Ammonia 4 excess		

group with groups of Sodium Sulphate and Sodium Nitrate

Bunty Mandell

CASH ACCOUNT—SEPTEMBER

Date		Received	Paid



CASH ACCOUNT—SEPTEMBER

Date		Received	Paid

180
15
900
180
270

446 | 270000 | 603
2676
24

Date		Received	Paid
	950		
	475		
	665		
	712		
	1670		
	3 570		
	59		
	58 250		
	1 12		
	162 530		
	4 230		
	158 2		
	124 720		
	7 470		
	117 25		
	123 330		
	4 960		
	118 370		
	117 250		
	1 120		

Date		Received	Paid
	Co Mi Sch		
	1 120		
	350 000		
	50		
	175 039		
	16 000 00		
	15 000 00		
	14 000 00		
	10 000 00		
	180		
	125		
	90		
	36		
	180		
	225		

CASH ACCOUNT—NOVEMBER

Date		Received	Paid

CASH ACCOUNT—NOVEMBER

Date		Received	Paid

CASH ACCOUNT—DECEMBER

Date		Received	Paid
	446		
	3		
	138,000		
	97 000		
	50 600		
	1,4[illegible]		
	45 000		
	12 000		
	1 000		
	1,5[illegible]		
	150		
	850		
	1,5[illegible]		
	1700		
	200		
	1,[illegible]		
	375 000		
	1,500 000 000		(75 000 000

CASH ACCOUNT—DECEMBER

Date		Received	Paid
	382		
	80		
	2674		
		382	
		200	
		764	
	1990		
	192		
	398		
	3		
	1791		
	1790		
	80		
	3820		
	456) 76400		(165
	456		
	3080		
	2736		
	344		

SUMMARY

	Received	Paid
Cash on hand Jan. 1	6250	
JANUARY	5723	
FEBRUARY	6235	
MARCH	6250	
APRIL	6301	6250
MAY	4397	5723
JUNE	1675	5351
JULY	1918	
AUGUST	1926	
SEPTEMBER	5313	
OCTOBER	3071	
NOVEMBER	3719	
DECEMBER	3739	
Total	15309	
Balance to new account	5313	1918
		3403

Calendar for 1903.

1903	JAN.	FEB.	MARCH.	APRIL.	MAY.	JUNE.
SUNDAY.	. . . . 4 11 18 25	. . . 1 8 15 22 . . .	. . . 1 8 15 22 29	. . . 5 12 19 26	3 10 17 24 31	. . 1 7 14 21 28
MONDAY.	. . . . 5 12 19 26	. . . 2 9 16 23 . . .	. . . 2 9 16 23 30	. . . 6 13 20 27	4 11 18 25 . .	1 8 15 22 29
TUESDAY.	. . . . 6 13 20 27	. . . 3 10 17 24 . . .	. . . 3 10 17 24 31	. . 1 7 14 21 28	5 12 19 26 . .	2 9 16 23 30
WEDNESDAY.	. . . . 7 14 21 28	. . . 4 11 18 25 . . .	. . . 4 11 18 25 . .	. . 2 8 15 22 29	6 13 20 27 . .	3 10 17 24 . .
THURSDAY.	. . . 1 8 15 22 29	. . . 5 12 19 26 . . .	. . . 5 12 19 26 . .	. . 3 9 16 23 30	7 14 21 28 . .	4 11 18 25 . .
FRIDAY.	. . . 2 9 16 23 30	. . . 6 13 20 27 . . .	. . . 6 13 20 27 . .	. . 4 10 17 24 . .	1 8 15 22 29 . .	5 12 19 26 . .
SATURDAY.	. . . 3 10 17 24 31	. . . 7 14 21 28 . . .	. . . 7 14 21 28 . .	. . 5 11 18 25 . .	2 9 16 23 30 . .	6 13 20 27 . .

1903	JULY.	AUG.	SEPT.	OCT.	NOV.	DEC.
SUNDAY.	. . . . 5 12 19 26	. . . 2 9 16 23 30	. . . . 6 13 20 27	. . . 4 11 18 25	1 8 15 22 29	. . . 6 13 20 27
MONDAY.	. . . 1 6 13 20 27	. . 3 10 17 24 31	. . 1 7 14 21 28	. . 5 12 19 26	2 9 16 23 30	. . 1 7 14 21 28
TUESDAY.	. . 1 7 14 21 28	. . 4 11 18 25 . .	. . 2 8 15 22 29	. . 6 13 20 27	3 10 17 24 . .	. . 2 8 15 22 29
WEDNESDAY.	. . 2 8 15 22 29	. . 5 12 19 26 . .	. . 3 9 16 23 30	. . 7 14 21 28	4 11 18 25 . .	. . 3 9 16 23 30
THURSDAY.	. . 3 9 16 23 30	. . 6 13 20 27 . .	. . 4 10 17 24 . .	. . 1 8 15 22 29	5 12 19 26 . .	. . 4 10 17 24 31
FRIDAY.	. . 4 10 17 24 31	. . 7 14 21 28 . .	. . 5 11 18 25 . .	. . 2 9 16 23 30	6 13 20 27 . .	. . 5 11 18 25 . .
SATURDAY.	. . 5 11 18 25 . .	. . 1 8 15 22 29	. . 6 12 19 26 . .	. . 3 10 17 24 31	7 14 21 28 . .	. . 6 12 19 26 . .

45
15
225
45
690

18000
6000
9000

690

6250
557
3.13

6250
15
3.717

18000
5000
8000
32000
30.75

18000
160
17200

32000

18000

6250
56
375.0
3.125
3.188

125